STUDY OF AIRPOWER

UNIVERSITY
OF MICHIGAN

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MAIN
READING ROOM

HEARINGS

BEFORE THE

SUBCOMMITTEE ON THE AIR FORCE

OF THE

COMMITTEE ON ARMED SERVICES

UNITED STATES SENATE

EIGHTY-FOURTH CONGRESS

SECOND SESSION

AIRPOWER

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[NOTE.—Throughout the text topic headings have been inserted to facilitate reference. These topic headings are not part of the testimony per se.]

STUDY OF AIRPOWER

THURSDAY, MAY 24, 1956

UNITED STATES SENATE,
SUBCOMMITTEE ON THE AIR FORCE
OF THE COMMITTEE ON ARMED SERVICES,
Washington, D. C.

The subcommittee (consisting of Senators Symington, Jackson, Ervin, Saltonstall, and Duff) met, pursuant to recess, at 2:55 p. m., in room 212, Senate Office Building, Senator Stuart Symington (chairman of the subcommittee) presiding.

Present: Senators Symington, Jackson, Saltonstall, and Duff.

Also present: Fowler Hamilton, general counsel; Ramsay D. Potts, Jr., associate general counsel; Fred B. Rhodes, legal consultant to Senator Saltonstall; Edward C. Welsh, assistant to Senator Symington; and Wallace L. Engle, staff member.

Lt. Gen. James M. Gavin, Chief of Research and Development, Department of the Army; Lt. Col. Donald S. Bussey, Plans Directorate, ODCSOPS, DA; Brig. Gen. Richard D. Meyer, Chief, Requirements Division, Office of Deputy Chief of Staff for Logistics, Department of the Army; Maj. Gen. Russell L. Vittrup, Assistant Deputy Chief of Staff for Military Operations, Department of the Army; Jack L. Stempler, Assistant General Counsel, Department of Defense; Maj. Gen. Hamilton H. Howze, Director of Army Aviation; Lt. Col. Francis J. Kelly, Assistant Executive to the Chief of Research and Development, OCRD, DA; Maj. Gen. Donald P. Booth, Assistant DCSPER, DA; Col. Louis B. Grossmith, Jr., United States Air Force, special staff group, Headquarters, USAF; Lt. Col. Oscar G. Goodhand, Army Aviation Directorate, ODCSOPS, DA; Lt. Col. Delbert L. Bristol, OCRD, DA; Capt. George C. Connor, Army Aviation Directorate, ODCSOPS, DA; W. O. Armand S. Maddalena, Army Aviation Directorate; ODCSOPS, DA; Clarke A. Morgan, OSD Security Office; Bernard S. Bogdanowicz, OSD, Security Office.

[The closed session testimony was censored by the Department of Defense for security reasons.

Those portions of the record affected by this censorship are indicated by the symbol Ⓓ.]

Senator SYMINGTON. We will call this meeting of the committee to order.

(Senator Duff left the hearing room.)

Senator SYMINGTON. General Gavin, are there any witnesses here who have not been sworn?

General GAVIN. Yes, sir.

Senator SYMINGTON. Ask the gentlemen to rise who have not been sworn. Will you raise your right hands, gentlemen?

Do you solemnly swear that before this Subcommittee on the Air Force of the Senate Armed Services Committee you will give the truth, the whole truth, and nothing but the truth, so help you God?

General HOWZE. I do.

Colonel GOODHAND. I do.

Colonel BRISTOL. I do.

(Senator Saltonstall entered the hearing room.)

Senator SYMINGTON. General Gavin, who is your first witness?

General GAVIN. Mr. Chairman, the Department of the Army would like this afternoon to make a brief presentation on its organic aviation situation. General Howze will make that presentation.

Senator SYMINGTON. Senator Saltonstall would like you to restate that.

General GAVIN. Sir, the Department of the Army has within it, for authorized functions within the Army, certain types of aircraft, generally of a rather small, low-performance type. This afternoon the Army will present a short briefing on that type aviation.

Senator SALTONSTALL. Thank you.

General GAVIN. It differs from the aviation support given us by the Department of the Air Force, upon which we will talk tomorrow, I believe, sir.

TESTIMONY OF MAJ. GEN. HAMILTON H. HOWZE, DIRECTOR OF ARMY AVIATION, OFFICE, DEPUTY CHIEF OF STAFF FOR OPERATIONS

General HOWZE. Mr. Chairman and gentlemen, I have submitted to the committee, and there is available to you, a prepared statement. With your permission, sir, although I will follow that very, very closely, I would like to talk to you rather than to read this verbatim.

ARMY AIR MISSION

The mission of Army aviation, simply stated, is to augment the capability of the Army to conduct effective combat operations.

By definition, it is organic aviation immediately responsive to the demands of the Army and services of the Army, and employed to enhance the mobility, flexibility, and the battle efficiency of the ground forces.

I think, sir, it is generally understood by all those who know anything of warfare that combat and——

Senator SALTONSTALL. Mr. Chairman, I am interrupting. I apologize for interrupting, but just very fundamentally, what is organic aviation? What do you mean by that?

ORGANIC AVIATION

General HOWZE. By organic aviation, sir, is meant that aircraft which belongs to the Army and does not operate as a part of another service in support of the Army.

Senator SALTONSTALL. I see. Thank you.

General HOWZE. By organic, sir, it will be painted brown this way, and have the Army name on it.

COMBAT COORDINATION BETWEEN LAND AND AIR FORCES

Now, part of the air activity in the combat zone, of course, such as that conducted at very high altitudes, although it has a considerable influence on the outcome of the land battle, nevertheless does not require a very detailed coordination of effort between the land forces and the air forces.

But, of course, some of it does demand a most intimate coordination of effort, and the aircraft, as they have developed by the industry, have now become capable of integration into the small-unit tactics of the Army, and therefore these two facts make it obvious that for real effectiveness, certain aviation should be organic to the Army, and therefore under the unconditional command of the field army commander.

ARMY NEEDS ITS OWN AIR STRENGTH

It is therefore the basic objective of Army aviation to develop the capability of providing the Army that part of aviation support demanding, as we say, intimate coordination of effort.

Now, as its primary characteristic, Army aviation does have now, and must continue to have, responsiveness to the demands of the ground unit commander.

That, in turn, demands that the aircraft must be capable of living with the Army; that is, capable of operating without the benefit of elaborate ground handling facilities, with specific reference to the concrete runway and the concrete hardstands.

To that end also the aircraft must be designed and equipped specifically for Army missions, with special reference here to their electronic equipment.

And then, too, the pilots must have a basic understanding of the nature of ground warfare and a detailed understanding of the tactics and techniques of the ground arms. They have got to be indoctrinated in the mission of the Army, and the Army's interests must be their interests, undivided by other allegiances.

(1) OBSERVATION MISSION

This chart indicates the several missions, or several functions, of Army aviation. The first is that of observation.

This includes the location of targets, both for artillery and guided missiles, and the adjustment of the fire of those weapons on those targets, battlefield surveillance, the study of terrain, and also the obtaining of information on enemy forces not otherwise obtainable by the aviation of other services.

Incident to that last is, of course, the requirement for a limited aerial photographic capability. With the development of more advanced missiles systems, we feel that the observation function will eventually be expanded to include a trajectory control of short-range guided missiles.

The observation just now in the Army is performed by light aircraft and helicopters. There are some types here. This [indicating] is a very small fixed-wing Army aircraft, and this is another one.

You notice that they have none of the refinements of more sophisticated aircraft. They travel between 90 and 110 miles an hour.

Additionally, there are small reconnaissance-type helicopters. These are just two-man helicopters. We have a requirement for a higher performance observation aircraft, not to replace this type altogether, by any means, but to supplement them, in order to allow the Army to maintain a capability to observe on a more fluid battlefield; that is, it isn't a question of ruling out the L–19 [indicating]. It is merely to extend their capabilities somewhat more.

We expect improved enemy countermeasures to be available against our aircraft, and therefore an improved performance should offset it. We hope that this new aircraft that we want to develop will have a top speed of somewhere in the neighborhood of 250 knots.

(2) TROOP AIR MOVEMENT IN COMBAT ZONE

We also must have a limited capability in the air movement of Army combat units within the combat zone. Now, included here is the movement of units to execute small-scale air-landed operations directly against the enemy.

Those can be divided into two general categories: one, in which you move your troops across natural obstacles, such as rivers, escarpments, swamps, and so forth, but additionally, the acts might take the form of moving your troops across terrain which is made difficult of passage by reason of defensive preparations by the enemy.

Also included are the movement of reserves, the shifting and relocation of units in order to meet the requirements of the tactical situation.

(3) JOINT AIRBORNE OPERATION

The function does not include the execution of what is known as the joint airborne operation. It is generally performed by cargo-type helicopters, such as these shown here, which are capable of carrying varying quantities of men, ranging from 12 up to about 30 [indicating], and as of the present time, by a small cargo-type aircraft, which carries a total of 11 passengers, or a ton and a quarter of cargo.

(4) CARGO LIFT

We also have a requirement, which was arrived at by study and our understanding of the battle requirements, for a 3- to 5-ton cargo aircraft, in order to provide a more efficient airlift in that weight category than is possible by the helicopters; provided, of course, that suitable landing fields can be found.

The helicopter will retain an agility and a flexibility greater than the fixed-wing aircraft ever will, in our current opinion.

(5) MOVEMENT OF CRITICAL SUPPLIES

The next function is that of rapid movement of critical supplies, and for the present we will only supplement, and then only on an urgent occasional basis, the ground transportation system, that is, the truck now operating within the field army.

Some time in the future, of course, the airline of communications may become a reality, in which case large Air Force or Navy aircraft would be needed to deliver supplies and troops into a number, or to

a number of points within the combat zone, after which Army aircraft would take over for further delivery and distribution within the combat zone and within the field army.

This does not require additional programing of aircraft, or rather, of different types of aircraft. The helicopters and the airplanes used in function No. 2 will be adequate for function No. 3.

(6) RECONNAISANCE

The next function is air mobility for land reconnaissance. By this function, we are anxious to provide our existing land reconnaissance forces a mobility differential, which will allow these forces to perform the missions normal in earlier wars to horse cavalry, and then in World War II, to the armored reconnaissance forces.

The missions for these forces, of course, are reconnaissance, screening, security of open flanks, seizure of critical areas, pursuit and, to some extent, exploitation.

This reconnaissance is in no sense "tactical reconnaissance," as the Air Force uses that term, and neither are these forces airborne forces at all.

They are merely Army-type reconnaissance units, whose mobility has been augmented, whose general capability has been modernized by the addition of aircraft.

(7) LIAISON AND COMMUNICATION

The next function of command, liaison and communications, needs very few words. You are aware, I am sure, of the extent to which the Army uses aircraft in the day-to-day direction of its forces, both in combat and in training.

Current types of observation, utility and command aircraft, such as that little one on the end [indicating], the L–23, are used to perform this mission.

(8) CASUALTY EVACUATION

And the final function is that of battlefield casualty evacuation, which is a tested expedient which was used very extensively in Korea and saved many lives. I think this function needs no justification before this committee.

AREAS OF R. AND D. ACTIVITY

I will just very briefly discuss some of the areas in which we are devoting effort by way of research and development in support of the aviation functions. The first is that directed toward the achievement of a far greater capability of operations off of unimproved fields.

(1) OPERATIONS FROM UNIMPROVED AREAS

We are looking to the time where we can operate not everywhere perhaps with fixed-wing aircraft, but at least we will be able to find in every square mile of typical farm country, let's say, a suitable landing field that we can put our aircraft into and out of, without improvement of the field.

Our effort takes two directions: We have got to develop aircraft which are capable of slower flight characteristics and yet retain safety, and, additionally, we have got to develop new landing gear which will allow the aircraft to negotiate an imperfect surface at the slower speeds.

(2) HELICOPTERS

We are also seeking to improve our capability for helicopter operation in times of low visibility and at night. Of course, we can fly them at night now, but we want to get a degree of stability in the helicopter and a degree of control over the helicopter by means of instruments, which does not presently exist in proper form, so that the aircraft is safely flown at very low altitudes, and I mean within hundreds of feet of the treetops, or lower yet at night; or in very bad weather. If we can do this, it will open all sorts of tactical possibilities for the utilization of these craft.

(3) NAVIGATION

We are looking for a better means of navigation in the forward battle area, which is a problem unique to the Army, inasmuch as it must be done without the benefit of ground stations, which are characteristic of all other navigation systems. It is going to take a matter of years for development, but we are very hopeful of success in this respect.

(4) TRAFFIC CONTROL

We are also experimenting with a new system of traffic control, which will allow us to operate aircraft at far greater densities than now occur anywhere else. This is going to be achieved, we think, partly by a regulation of the speed of aircraft As it is now, you are aware, in a traffic pattern each aircraft chooses its suitable or convenient speed. That may no longer be possible in greater density.

(5) AIRCRAFT VULNERABILITY

We are very anxious to reduce the vulnerability of our aircraft. We will get a measure of this by being able to fly slow, on the treetops; a measure of it by increased performance under some circumstances, which will allow us to get into and out of an area before an enemy can jump us, but we do not look to any sort of performance, of course, which will allow us to outrun an enemy fighter, a performance which is quite beyond our possibilities. We are also, of course, studying tactically the devices of dispersal and concealment of aircraft, to reduce our vulnerability.

(6) IMPROVED LOGISTIC SUPPORT

And finally, we are looking hard toward a reduction of the logistic support required of our aircraft, by a simpler design, better maintenance procedures, better replacement procedures, and a longer life of component parts. We look to great progress in that; at least, we need the progress, and we hope we will get it.

We are developing new engines, one of 800-horsepower and another of 1,500-horsepower, in conjunction with the Air Force, but specifically for application to Army aircraft, both of fixed wing and rotary wing design.

(Senator Saltonstall left the hearing room.)

General Howze. We hope to get another new engine eventually, of about 250- to 300-horsepower. These are turbine engines, which will burn any type of fuel, of great advantage to the Army.

Of course, as the state of the art progresses and our requirements change, we are looking to the development of some new variations in types of aircraft.

I have already spoken of a new higher performance observation airplane. We are looking also for a new, better, light observation airplane to replace this now very good L–19. Ultimately it will have to be replaced, but this is pretty low on our priority list right now.

We are looking for a much better, lighter and cheaper helicopter to replace these types. That is within current possibilities.

We are looking for individual lift devices, such as this one here. This is just one of two types which are being purchased for the Army right now, the idea being to carry a single individual.

And then, a new utility helicopter is in process of development. This will be the first operational production turbine-powered helicopter that we know of. That does not mean it is the first one to fly, but it will be the first one to be operational in our forces.

And, in accordance with our needs that we have developed by study, we are conducting a feasibility study for a new 4-ton transport.

SUMMARY

I can sum up my comments, Mr. Chairman, by the following:

First, that new forms of firepower and communications and transportation have very greatly altered the tactics and techniques of ground forces.

Secondly, that aircraft have now developed to the point that their integration into small unit tactics is not only possible, but, in our opinion, absolutely essential, if we are to meet the demands of modern ground warfare.

Third, the Development of our aviation is a development which is peculiar to the Army and peculiar to our needs, and does not compete in any important way—I mean, in any considerable way at all—with the aviation of other services.

And finally, we think that aviation, if it is properly developed, with imagination and wit and wisdom, will contribute very decidedly to the effectiveness of our tanker and infantryman and artilleryman in his own environment.

(Senator Saltonstall reentered the hearing room.)

Senator Symington. Thank you, General.

That finishes your briefing?

General Howze. Yes, sir.

Seantor Symington. Mr. Counsel, have you questions you would like to ask.

Mr. Hamilton. Yes, sir.

General, is it your opinion and the opinion of your colleagues in the Army, that you could operate aircraft of this character even though

you did not have air superiority, even though there was an air combat being waged over the area in which you were?

IMPORTANCE OF AIR SUPERIORITY IN COMBAT

General HOWZE. General Gavin, would you like me to answer these direct? I am perfectly happy to.

General GAVIN. Go right ahead.

General HOWZE. The answer is "Yes," although the greater degree of enemy superiority, the hotter and tougher our life will be, but that is applicable to any ground force.

If the enemy has a decided air superiority, our life is going to be pretty hard. On the other hand, our chief means of survival is going to be not to outrun these aircraft but to get as slow as possible, so that we can get down into the treetops, so to speak, where it is a very difficult problem to bring our aircraft down.

The higher the performance of the enemy aircraft, the further and further they get into high subsonic or supersonic speeds, the less will be our degree of vulnerability, we think.

This has not been, cannot be, proven mathematically. It is an opinion, and a firmly held one.

Mr. HAMILTON. Is it an opinion based on any experiments, war gaming, or anything of that kind?

General HOWZE. I am not sure that war gaming would produce such a result; but the experience has been considerable in World War II, in which our aircraft have been repeatedly attacked by enemy air-craft, and sometimes they have been shot down and the pilots killed. On the other hand, very often the enemy aircraft is unable to down them. They are a long way from being sitting ducks.

EXPERIENCE IN KOREA

Mr. HAMILTON. You mentioned you were able to operate these helicopters for the purpose of evacuating the wounded, during Korea?

General HOWZE. Yes, sir.

Mr. HAMILTON. Were you able to operate those in areas where we did not have air superiority?

General HOWZE. I was not in Korea, but my understanding of the Korean campaign is that it was not a question of Allied air superiority, but absolute supremacy over the forward areas.

I believe I am correct in saying that enemy aircraft, except on very unusual occasions, didn't appear over the battle area at all; isn't that a correct statement?

General GAVIN. Well, I don't think that the high performance aircraft in Korea had any significant impact on the use of helicopters. They were used in very precipitous terrain, close to the ground.

Mr. HAMILTON. What I was getting at was whether the Korean experience would give you any basis for an appraisal as to the effectiveness of the use of aircraft of this kind where you had enemy fighters or light bombers or dive bombers attacking.

General GAVIN. Yes.

General MEYER. I might comment from personal experience in Korea, the only aircraft we saw over Korea of the enemy, that is, we

in the ground forces, were aircraft of this type. There were several penetrations of Seoul in the closing months of the war by enemy aircraft of this type.

General GAVIN. I might say our conditioned minds—and they are that—have been arrived at from experience going back to the 1930's before World War II, when we were convinced we could fly this type of aircraft and we were frequently counseled otherwise.

CONCERNED ABOUT ENEMY MISSILES

From where I am in research and development, I am, frankly, not as concerned about enemy aircraft bothering us, because now the turning radius is getting enormous, and the present Russian aircraft simply can't maneuver such as these aircraft can.

I am, frankly, more concerned about enemy missiles than I am about enemy aircraft in the period which we are now entering.

General HOWZE. I think I am correct in saying the missile is always going to have a harder problem on a low-flying aircraft than on high-flying aircraft—I mean, one very low.

Mr. HAMILTON. Thank you, sir.

IMPROVED AIRCRAFT NEEDED

You mentioned, in the course of your briefing, that you had requirements for an improved reconnaissance aircraft and for an improved cargo-type aircraft?

General HOWZE. Improved observation aircraft.

Mr. HAMILTON. Observation aircraft, was it? And also, am I correct that you mentioned a requirement for an improved cargo-type aircraft?

General HOWZE. That's correct.

Mr. HAMILTON. Are you working on those requirements now in research and development?

RESEARCH AND DEVELOPMENT STUDIES

General HOWZE. We are.

For the better observation aircraft, we have already gone through the process of soliciting and receiving design studies by representatives of aircraft industry. We and the Navy, the Navy operating for the Marines, are jointly proceeding with the development of this aircraft.

(Senator Jackson left the hearing room.)

General HOWZE. As far as the cargo aircraft is concerned, we have only got feasibility studies, and have not proceeded with any expenditure of considerable money, nor proceeded with any development.

Mr. HAMILTON. Why is that?

LIMITATION ON SIZE OF ARMY AIRCRAFT

General HOWZE. As of the present time, we can't proceed beyond an investigation because of the memorandum of understanding, which limits the Army to a 5,000-pound empty weight fixed-wing airplane.

Mr. HAMILTON. What is that memorandum of understanding which you mentioned?

General Howze. The memorandum of understanding is a document which was signed in November 1952, by the Chief of Staff of the Army and the Air Force, on behalf of the Secretaries of the Army and the Air Force, and that is a memorandum which seeks to define more specifically the language, used in the so-called functions paper, of the meaning of "such aviation as may be organic therein," that being very general wording.

The Army and the Air Force sought by this memorandum to define that further.

(Senator Jackson reentered the hearing room.)

General Howze. That imposes on the Army a 5,000-pound empty weight limitation for fixed-wing airplanes. However, providing that should the Army or the Air Force, the Secretary of the Army or the Air Force desire, either of these individuals may seek a revision of that weight limit by application to the Secretary of Defense.

Mr. Hamilton. Have there been modifications made in the arrangement of this procedure that you just mentioned?

General Howze. Of the 5,000 pounds?

Mr. Hamilton. Yes.

General Howze. No, sir; there have not.

Senator Symington. Gentlemen, I am sorry, but this may be one of those bad afternoons. That is a vote.

(Short recess.)

Senator Symington. The committee will come to order.

(The reporter read the previous sentence.)

ARMY CONTROL OVER FIREPOWER IN COMBAT

Mr. Hamilton. General Gavin, if I may address a question to you, sir, in connection with the presentation that was made the other day, I believe by Colonel Dalrymple, with regard to the Army employment of Jupiter, the last paragraph of the statement read as follows:

I would like to read it and ask you if you would care to comment on it.

> In the confused and fluid situation of future war, the ground commander cannot entrust to other agencies the destruction of vital targets which endanger accomplishment of the ground mission or the lives of his troops.
>
> Therefore he must have under control and directly responsive to his need all the firepower necessary to support his operations. He must not be forced to depend for support on a when-not-otherwise-employed basis from another commander who is primarily engaged in a sea or air battle.

I wonder if you would mind please elaborating somewhat upon that.

General Gavin. Well, I believe the key word perhaps is "firepower," and I would like to point out that that referred to the employment of Jupiter, and I would say to the employment of missiles in toto, and we do feel that missile firepower should be responsive immediately to the ground commander to be effective.

Mr. Hamilton. This was not intended then, I take it, to relate in any way to relationship that might exist in the event of a war today between the ground commander and air support provided by the Air Force or some other arm of the service.

General Gavin. That is not directed to that problem, is that right?

Mr. Hamilton. This is not directed to that problem, sir.

General Gavin. That is right.

Mr. HAMILTON. It is directed to some time in the future in general.

General GAVIN. Missile firepower.

Mr. HAMILTON. Specifically to the employment of missiles of the Jupiter type.

General GAVIN. Exactly.

Mr. HAMILTON. Thank you. That concludes my questions.

Senator SYMINGTON. Senator Saltonstall?

Senator SALTONSTALL. I would like to ask just a very few questions because this is a comparatively new subject to me.

RESPONSIBILITY FOR ARMY R. AND D.

General, who is responsible for the research effort on aircraft that you have described?

General HOWZE. General Gavin's office is, sir. He has total responsibility for all of the research and development effort of the Army, which includes that of aircraft.

Senator SALTONSTALL. These aircraft that you describe—the helicopters—are considered as you said an organic weapon of the Army, and the research on them, on speed, and the airpower and fuel consumption and the type of motor and so forth and so on, all those questions are for the Army to develop?

General GAVIN. Yes, sir.

Senator SYMINGTON. Whichever one gentleman wants to answer?

General GAVIN. Perhaps I had better take it.

I would say in general the answer is "Yes." However, I might modify it by saying that we may not undertake development of any aircraft without the approval of the Department of Defense, Assistant Secretary for Research and Development.

Specifically in the case of the higher performance observation aircraft, to which General Howze referred, it was approved by the present Secretary of the Air Force Quarles when he was Assistant Secretary of Defense for R. and D.

AIRCRAFT DEVELOPMENT FOR ARMY

Now in granting approval for any aircraft, it is decided at that time whether the Air Force or the Navy will do our development for us, because they do that now.

We do not have the facilities to do our own development work. We have direct liaison with industry, however, which does the hardware work.

Senator SALTONSTALL. Will you go a little more in detail, General? Perhaps I did not hear you exactly on the development work on these aircraft. You say that is done for you by the Air Force and the Navy Department?

General GAVIN. Yes, sir.

Senator SALTONSTALL. Then who does the basic research?

AIRCRAFT RESEARCH FOR ARMY

General GAVIN. Well, that is done by contract with industry, and industry does the basic research for us.

Senator SALTONSTALL. Who sets up the requirements?

JOINT CONSIDERATION GIVEN SPECIFICATIONS

General GAVIN. The Army states its specifications, and these in turn go up to a review board in the Department of Defense, and all the services participate in a discussion on the specifics of the type aircraft we are interested in. The aircraft then is handled by either the Air Force or the Navy from then on out.

Senator SALTONSTALL. From then on out?

General GAVIN. Yes, sir.

Senator SALTONSTALL. So that you do not see it again, so to speak, until you get the finished product?

General GAVIN. Through liaison with industry we do.

To be sure I am correct on this, I have here with me Colonel Bristol who does this work in R. and D. and I would like him to address himself to this question further if he will.

ARMY AIRCRAFT PROJECTS ASSIGNED TO AIR FORCE OR NAVY

Colonel BRISTOL. We work very closely with the Air Force and Navy and also with the National Advisory Committee for Aeronautics on our research and development program, and a project is assigned for the development of an end item of aircraft, usually to the Air Force or Navy.

But we maintain constant liaison with the Air Force and Navy as the development of the aircraft progresses, to insure that the proper funding is accomplished by the Army.

Senator SALTONSTALL. It was said that you wanted a faster airplane to increase the speed from 100 up to 250 miles an hour.

Who determines that requirement?

General GAVIN. The Army determines that as a requirement.

Senator SALTONSTALL. And if that is approved by the research group and the other services, or the chiefs of staff, then you can go ahead on the research of that?

General GAVIN. When authorized by the Department of Defense we go ahead, sir.

Senator SALTONSTALL. Who is responsible for schooling your aviators?

General GAVIN. I believe I will let General Howze answer that, sir.

TRAINING OF ARMY PILOTS

General HOWZE. Just now, Mr. Senator, it is divided into two parts. I am talking of the present moment. The Air Force gives primary or beginner training to our pilots, and we take over after completion of primary training, and give them advanced or tactical type training.

There are a number of different types of aviators, different types of mechanics and tower operators and so forth, and I will not bother you with the details unless you want them, but the present circumstance is to be changed by direction of the Secretary of Defense in the near future.

Starting on the first of July we take over from the Air Force the training which the Air Force has hitherto been doing for us. We will complete that transition from Air Force to Army by about the first of next year.

Senator SALTONSTALL. If we have a shortage of aviators, as we have at the present time, of the very skilled, trained aviators in these very fast planes, and we have some more coming along in the schools and in training, who determines whether that man will go into the Army or the Air Force?

General HOWZE. We are not competitors in that respect, sir, because we only draw our aviators from within existing ranks of the Army.

We have no individuals who come into the Army as aviators, that is who come in to fly. They are already members of the Army and so we recruit internally so to speak and therefore do not compete with the other services.

Senator SALTONSTALL. So that when your maximum figure for the Army is set at, I forget the figure this year, 1 million, what is it ——

General GAVIN. I am not sure of the figure, sir, 1,025,000 or something like that.

Senator SALTONSTALL. 1,025,000 men we will call it.

Out of that 1,025,000 men you determine that a certain number will be aviators.

General HOWZE. True.

Senator SALTONSTALL. You take men who you believe are qualified out of that group, send them over to the Air Force for training, and when they get trained up to a certain point, you bring them back and give them the final schooling that you think is necessary for your purposes.

General HOWZE. Yes, sir, but as I say we are in the process of taking all of that over from the Air Force.

We will train them from scratch; yes, sir.

Senator SALTONSTALL. And then how long does that training take? How soon can you put a man up in one of those observation planes?

General HOWZE. The simplest type training is that of the fixed wing aviator, and it takes 17 weeks of primary training and 10 weeks of advanced training or a total of 27 weeks training before the man receives his wings and is qualified in this aircraft.

He is a good deal more than a pilot. He is an army officer capable of doing all the functions necessary to the observation pilot which is a good deal more than the pure process of flying the aircraft.

QUESTION OF FIXED WING PILOT SUPPLY

Senator SALTONSTALL. Have you got any shortage of those men?

General HOWZE. No, sir; we get enough.

(Senator Jackson entered the hearing room.)

Senator SALTONSTALL. Let me ask you another question.

COST OF AIRCRAFT

Could you pick up one of those planes, give us the name so it can go on the record, and tell us the cost?

Senator SYMINGTON. Can he furnish that for the record?

Senator SALTONSTALL. Yes, if you would.

If he would take the smallest one and the biggest helicopter I would like to get an idea of the price, and furnish the rest for the record.

General HOWZE. This is the smallest and cheapest aircraft.

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Senator JACKSON. You had better state what it is so the record will show it.

General HOWZE. This is the L–19 fixed wing observation aircraft. It is built by Cessna. It carries a passenger and an observer. It has a flyaway cost, that is the cost of the aircraft itself, $12,778, but when you provide spares for it, that is enough spare parts to carry it over a period of years, which is normally programed with the airplane just as the Air Force does it, the cost is $16,492.

Senator SALTONSTALL. Take your biggest helicopter there.

General HOWZE. The biggest is the H–37. That is a Sikorsky, a Sikorsky helicopter, and these are just now beginning to come into production.

There have been some troubles with this helicopter, but it is expected that they will be cured by reason of the effort of a very capable company which is the Sikorsky Helicopter Co.

This has a flyaway cost of $753,000 and with spares the current cost of this aircraft is $1,210,000.

Senator SYMINGTON. You do not have to detail it too much. Please furnish it for the record.

Give the price of one aircraft, and what the price of the larger one is, General, and detail it any way you want to in the record, so that we get an idea of what the cost of the small one is and the cost of the large one.

General HOWZE. All right, sir; I have done that.

(The requested information was supplied to the Committee in classified form.)

Senator SALTONSTALL. $16,000 for the smallest one and something over a million dollars for the largest one?

Now let me ask you just 2 or 3 questions that were brought to my mind from listening to Mr. Hamilton.

QUESTION OF AIR SUPERIORITY

When you talk about air superiority of one Air Force over the other, that does not completely eliminate the Army from doing its observation work and doing its land reconnaissance work and liaison and communications work, does it, to a complete nullification of that effort?

General GAVIN. Mr. Senator, this expression "air superiority" among military people is one of the most discussed terms and frequently one of the most misunderstood terms we have.

When first it came into use, it was presumed that it was a condition of affairs in a battle area that would enable one side to gain complete moral and physical superiority over the other. We learned in World War II that it was a fleeting stage of affairs indeed and while one side could enjoy complete air superiority such as we presume the allies did in the winter of 1944—45, from time to time the enemy could strike suddenly and achieve in a local area a surprising degree of air superiority with a great posture of resources on his side.

With the performance of aircraft as we now see them coming along, that is where they fly at higher speeds and much greater turning radius, air superiority to us is going to be something quite different we believe than anything we have seen in the past.

It does not seem possible to control the land areas by merely flying over them with the type aircraft and type defenses that will be related to each other in the future.

So we do not think that the term "air superiority" as it was applied in 1945 could well be applied to the future.

We do not think that will disturb us.

Senator SALTONSTALL. I had in mind one of these puddle jumpers, isn't that what you call them?

General GAVIN. Yes, sir.

Senator SALTONSTALL. One of these puddle jumpers flying about a hundred feet above the ground with a 600-mile-an-hour jet trying to hit it.

General GAVIN. No problem.

Senator SALTONSTALL. I know in World War II that that puddle jumper could pretty well clear himself.

General GAVIN. Yes, sir. We do not see where that is going to bother us. We do not anticipate any problem of that sort.

Senator SALTONSTALL. So that, assuming an enemy had complete control of the air as we had over the Germans in the last few weeks or months of the war, that would not affect the movement of the Army and the supporting aircraft of the Army so as to nullify that aircraft support? Am I not correct?

General GAVIN. In the time frame to which we are addressing ourselves I would agree with you; yes, sir.

ANTICIPATION OF SEVERAL PURPOSE AIRCRAFT

Senator SALTONSTALL. I was interested, and I hope, Mr. Chairman, that you consider these questions pertinent—I was interested in the fact that you wanted a faster airplane, over a hundred miles an hour up to 250 miles an hour, because I would suppose that in going into that speed, you would lose some of the advantage that you would have in a puddle jumper.

General HOWZE. Well, sir, we have built into the specifications for this aircraft, in addition to the high speed of 250 knots, a slow speed or loitering capability of under 100 knots, so that he will be able to do both.

It is possible to design an aircraft that will do both of those successfully. He uses his higher speed not to outrun the enemy but in some cases to make a shallow penetration over enemy territory and get back out of the most dangerous area.

Senator SALTONSTALL. For observation purposes?

General HOWZE. Yes, sir; in a very short period of time.

He also will get the advantage of that speed in defense against ground fire. But should he be jumped by an airplane, he has no chance to outrun it, so his probable tactic is to slow down and get down in the treetops where he is very maneuverable. This aircraft will have that maneuverability.

QUESTION OF ENEMY CONTROL OF AIR

Senator SALTONSTALL. Just one more question, Mr. Chairman. Then assuming that we were in a position where our ground troops, our Army, were advancing and cleaning up and capturing and holding

a city or important place, you conceive the future to be that the aircraft you have organically assigned to you will still be of value to you, even though the air up above may be lost to us, to put an extreme case?

General HOWZE. As I stated earlier, sir, there is no doubt that complete enemy superiority would be a damaging factor to Army aviation as it would to all surface and air forces in the area.

We are not invulnerable. But on the other hand, we don't feel that it will nullify us.

Senator SALTONSTALL. Thank you, Mr. Chairman.

AIRCRAFT, THE EYES OF THE ARMY

Senator SYMINGTON. General Gavin, this business of airpower and the Army. In the past, cavalry has been the eyes of the Army. Is that a fair statement?

General GAVIN. Pre-World War I; yes, sir.

Senator SYMINGTON. In the Civil War?

General GAVIN. Yes, sir; absolutely.

Senator SYMINGTON. Up until the time that the Union armies got adequate cavalry—I was always interested that 12,000 cavalrymen were under General Wilson at the end—up until that time they were constantly defeated because of the superior eyes of the Confederate Army; is that a fair statement?

General GAVIN. That contributed in a large degree to their defeat, absolutely.

Senator SYMINGTON. What we are talking about here on the table really to a large extent could be considered eyes of the Army; isn't that true?

General GAVIN. Yes, sir. If I might comment on that further, the eyes of the Union forces frequently provided reserves as well because when Wilson or Pleasanton or Sheridan were not out in front, they were the major reserves, and would suddenly move to a flank and block off a threat.

These we hope will provide a similar function. The source of mobility of the eyes of the Union and Confederate forces, the horse, was outnumbered in the standard divisions. There were more horses in the infantry divisions in the Civil War than there were in the cavalry divisions.

These were in the form of wagon trains, getting wounded out, ammunition up, long wagon trains hundreds of miles long.

We feel mobility best serves the function of the Army when it gets the man to the area of decision.

Senator SYMINGTON. Then what you are really talking about, with regard to dispersal in this atomic age, in the previous briefings we have had, and also what you are talking about now, is maximum eyes for the Army. Is that correct?

General GAVIN. Yes, sir.

Senator SYMINGTON. This was verified in Korea. If we had had efficient eyes, we would not have suffered that defeat in North Korea. Is that a fair statement? We would have had much less chance of suffering defeat if we had known something about those Chinese divisions before they hit us. Is that right?

General GAVIN. In my personal opinion, absolutely. I, as you may know, have written on this subject.

Senator SYMINGTON. You have written on this subject?

General GAVIN. Yes, sir, I have.

I have felt strongly the lack of adequate reconnaissance of a discriminating sort, something that instead of moving very high and very fast and hope to see it, something that could move very slow and occupy key terrain features and keep things under observation and then move back with information when you needed it.

Senator SYMINGTON. So what you are really asking for here, in justifying this air arm of the Army, is being given eyes to in turn give yourself a better chance of winning if you have to fight; is that a fair statement?

General GAVIN. Yes, sir; I think this is absolutely so. We are very much interested in our analysis of past combat in the way the German armed forces foresaw the great opportunity of mechanization, and the blitzkrieg was conceived as the mobility differential over all the other European armies.

A number of the British saw, J. F. V. Fullee, Jaffe of the American Army; DeGaulle saw it in France.

Now we are in the period in our opinion in the technological state in which we find ourselves that the army must be on tracks and wheels.

If we meet an army so equipped we must have a mobility differential for purposes of reconnaissance and this must be this type vehicle.

NEED ARMY QUALITY TO OFFSET ENEMY QUANTITY

Senator SYMINGTON. As I understand it, the possible enemy, the Soviet Communists and their allies, have armies very much larger than ours.

General GAVIN. Yes, sir.

Senator SYMINGTON. If we ever have to fight again; is that correct?

General GAVIN. That is correct.

Senator SYMINGTON. Therefore if we are going to try to meet the threat of the free world with a small army, that army should be qualitatively as good as is necessary, especially if we want to avoid heavy increased casualties as the result of being unprepared; is that a fair statement?

General GAVIN. That is correct.

CASUALTIES

Senator SYMINGTON. At this point in the record, will you put the casualties of the United States Army as against the other services in World War II and those in the Korean war. Please make that a part of the record.

General GAVIN. I can get them for the record.

Senator SYMINGTON. Will you do that?

General GAVIN. Yes, I will.

(The requested information is as follows:)

Casualties in World War II and in the Korean war

WORLD WAR II (DEC. 7, 1941, TO DEC. 31, 1946)

	Battle deaths	Other deaths	Wounds not mortal
Army	234,874	83,400	565,861
Navy	39,379	25,664	37,778
Marines	19,733	4,778	67,207
Air Force	(1)	(1)	(1)
Total	293,986	113,842	670,846

KOREAN WAR (JUNE 25, 1950, TO JULY 27, 1953)

	Battle deaths	Other deaths	Wounds not mortal
Army	27,704	9,429	77,596
Navy	458	4,043	1,576
Marines	4,267	1,261	23,744
Air Force	1,200	5,884	368
Total	33,629	20,617	103,284

[1] Included in Army.

AN AIR FORCE IN EACH SERVICE

Senator SYMINGTON. As I understand it, the Air Force has an air force; isn't that true?

I am right on that; am I not?

General GAVIN. Absolutely.

Senator SYMINGTON. And the Navy has an air force; has it not?

General GAVIN. That is right.

Senator SYMINGTON. And the Marines have an air force; have they not?

General GAVIN. Yes, I would say so.

Senator SYMINGTON. Now if the Army is to be equal to our other ground army, a very fine ground army for which I have great admiration; if it is to follow the logical development of airpower, then the least we can do is give it eyes so it has a chance to win when and if it fights. Is that a fair statement as you see it?

General GAVIN. I would say that precise statement is a fair one, yes, sir.

Senator SYMINGTON. Your planes here cost money. I think the B–52 costs some $8 million apiece and we are talking about planes from 16,000 to a million plus; is that about right?

General GAVIN. Yes, sir.

IMPORTANCE OF BEING READY FOR PERIPHERAL-TYPE WARS

Senator SYMINGTON. Unless I misread your testimony, you testified that you felt unless we were capable of fighting a peripheral war successfully we would either have to give up or get into a war of massive retaliation using the maximum weapons; is that correct?

General GAVIN. I do not believe I used those exact words, sir; but in general.

Senator SYMINGTON. Let me withdraw the "give up."

General GAVIN. That is right.

Senator SYMINGTON. And if we are not in a position to fight a peripheral war, that will get us closer to a hydrogen war?

General GAVIN. That is right. Yes, as I recall the words, we must be able to deal successfully with a peripheral war, or failing to do so would invite general war.

(Senator Jackson left the hearing room.)

Senator SYMINGTON. Then what you are really asking for here, as I understand it, is something which will give your Army a chance to win in case you are forced to fight, regardless of what type and character of war it is?

General GAVIN. Absolutely.

(Senator Symington left the hearing room.)

(Short recess.)

(Senator Symington entered the hearing room.)

Senator SYMINGTON. I think Senator Jackson will be here in a minute but we might as well go ahead. It was another vote.

For the record, the Marines have their own tactical air force, don't they?

COMPARISON OF ARMY AND MARINE USE OF AIRCRAFT

General GAVIN. Yes, sir, they do.

Senator SYMINGTON. And you are not asking for that?

General GAVIN. We are not.

Senator SYMINGTON. But they also concentrate in their program for battle on the helicopter idea, do they not?

General GAVIN. Yes, sir, they do.

Senator SYMINGTON. And what you are doing here is requesting full consideration for what you need to handle Army divisions, just like the Marines have their setup to handle Marine divisions. Is that a fair statement, excepting tactical air?

General GAVIN. I would say so.

Senator SYMINGTON. I know you are more interested in planes such as the C–123's than they are.

General GAVIN. That is right, sir.

ARMY PILOTS

Senator SYMINGTON. The question of the cost of training pilots, pilot shortage, came up. I wish Senator Saltonstall was here and I will correct the record if he is not completely satisfied with any references I make. Fundamentally, if you need pilots you need them just as much for the Army as you do for any other service, don't you, if they are essential?

General GAVIN. That is right, sir.

Senator SYMINGTON. And therefore even if you do get your pilots out of the Army, as I understand it, there is no reason why you should not get them out of any other pool, along with the other services, if they are essential to your operation and you want the most efficient Army possible?

General GAVIN. I would agree with that, sir.

Senator SYMINGTON. Well, so would I.

Now, with respect to the training picture, do you believe your pilots are getting adequate training now?

General GAVIN. I believe so, sir.

I would like General Howze, however, to comment on that.

General HOWZE. The Air Force has been very cooperative with us, Mr. Chairman.

We have been anxious to get Army training back under Army control for the general purpose of standardization and in order to allow us to proceed in our primary fixed wing training as the Air Force does with theirs, that is, by putting it out on civilian contract.

(Senator Jackson reentered the hearing room.)

Senator SYMINGTON. Now there have been some statements made recently, General, that I am not quite sure I understand, but in your position here today you can give us the facts exactly as you see them as an individual, is that correct?

General HOWZE. Yes, sir.

Senator SYMINGTON. You have an army of a certain size?

General HOWZE. Yes, sir.

Senator SYMINGTON. And you know what that size is in divisions?

ARMY AIR EQUIPMENT NOT SUFFICIENT NOW

Have you enough of this type and character of equipment to say that it is adequate for that army?

General HOWZE. We are in process of building toward that.

Senator SYMINGTON. I did not ask you if you were in the process of building toward it. I asked you if you had it?

General HOWZE. The answer is "No, we do not have it."

Senator SYMINGTON. Why haven't you got it?

General HOWZE. Because, sir, it takes time to build toward it.

QUESTION OF SUFFICIENCY OF FUNDS

Senator SYMINGTON. Have you gotten the amount of money that you wanted in the last few years, that you requested?

General HOWZE. I think, sir, that the initial estimates have always got to be adjusted somewhat, but we think that we have been very adequately supported within the money allotted to the Army. We have a very high level of support within the direction of the Army.

Senator SYMINGTON. Let me repeat the question.

General HOWZE. All right, sir.

Senator SYMINGTON. Do you believe that you are given enough funds to handle this side of the Army's air problem, planes, and helicopters?

General HOWZE. My hesitancy arises from an endeavor to answer as accurately as I can, Mr. Chairman.

The research and development program money which is devoted to Army aviation I feel could be increased with profit.

I think that the amount of money which has been given to us for procurement really has come very close to meeting our capability of absorbing the aircraft which are given to us. By that I mean the creation of——

Senator SYMINGTON. Wait a minute. Did you say that you thought the money given to you for aircraft very closely came to your capacity of absorbing aircraft?

General HOWZE. To absorb the aircraft which the money produces for us, yes. It is a very complex business to develop a new capability which——

Senator SYMINGTON. This is a new capability that you are asking for?

General HOWZE. Yes, sir, in many respects; that is, we are looking to the building of a lift capability for the Army which we have not had in the past.

Senator SYMINGTON. What did you ask for in the way of research and development funds for the Army in 1955 and what did you get?

General GAVIN. I had better take that, Mr. Chairman, since I am Chief of R. and D.

Senator JACKSON. Mr. Chairman, might I just interpose and suggest a question to clarify it?

Can we find out whether or not there is a limitation on what they could get for R. and D.?

Senator SYMINGTON. I was going to get to that, about the guidelines. These are questions we have asked of the other services; and we want to give you the opportunity of answering them.

ARMY AVIATION R. AND D. FUNDS LESS THAN REQUESTED

General GAVIN. In the fiscal year 1957 we now have completed drafting what we call the execution plan for our budget, fiscal year 1957, going into 1957.

Senator JACKSON. Will you restate that?

General GAVIN. We have just completed drafting our budget execution plan for fiscal year 1957, and for example we are planning on expending $12.5 million on our aviation R. and D. program.

We have, in complete response to your question, we have asked for an additional $14.7 million.

Senator SYMINGTON. You have asked for it?

General GAVIN. That is in the process of going up to Department of Defense now, sir.

Senator SYMINGTON. What was the guideline given to you by the Department of Defense with respect to this?

General GAVIN. This goes back a year ago when we drafted the 1957 budget, sir.

(At a later date, the committee was furnished the following statement by the Department of the Army:)

No Department of Defense instructions were given specifically for the aviation portion of the Army's Research and Development program.

Senator SYMINGTON. Now what was the figure, the guideline for the year 1956?

What was the figure suggested, the figure that was suggested you put in by the Department of Defense, as a guideline, in the fiscal year 1956 for research and development?

General GAVIN. I understand exactly the question. I am not sure that I have the information here. I think also in considering funding for aircraft, we should consider P. and P. funds also. Let me have the fiscal year 1957 P. and P. funds for aviation research.

Senator SYMINGTON. What does that mean?

General MEYER. Procurement and production appropriations.

Senator SYMINGTON. General, in an effort to simplify this problem, the guideline was given for overall R. and D. for the Army, was it not?

General GAVIN. Sir, the guideline was given for the overall program and then we in turn broke this down and sent it up for Department of Defense approval.

Senator SYMINGTON. And you asked for how much and you got how much for the fiscal year 1956 and the fiscal year 1957?

Off the record.

(Discussion off the record.)

Senator SYMINGTON. Back on the record.

Colonel BRISTOL. Mr. Chairman, we originally sought in fiscal 1956 18.875 and we got for R. and D. purposes of aviation 13.775.

Senator SYMINGTON. What year was that?

Colonel BRISTOL. That is fiscal 1956 as I understood your question.

Senator SYMINGTON. The current fiscal year?

Colonel BRISTOL. Yes, sir.

Senator SYMINGTON. What have you asked for for 1957 and what have you been told you are going to get?

Mr. HAMILTON. Your reference to those figures, Colonel, was in millions of dollars?

Colonel BRISTOL. That is right.

Our total program for 1957 was $27.2 million.

Senator SYMINGTON. That you asked for?

Colonel BRISTOL. That was what we would like to have, and what we have is $12.5 million.

Senator SYMINGTON. So despite what you say as to the vital importance of this type and character of equipment to the future fighting of the Army, what you have been allowed by the Department of Defense would be one and a half times the cost of a modern long-range bomber, if the cost of that bomber was $8 million. Is that true?

FISCAL YEAR 1957 BUDGET FURNISHES LESS THAN HALF FUNDS REQUESTED

General GAVIN. This is true.

I should add, sir, that the difference between his figure which he gave you of some 12.5 and 27.2 is the 14.7 that we are now going back to the Department of Defense and asking for.

Senator SYMINGTON. Yes.

In other words, you asked for 21 plus, they have allowed you 12 plus, and you say "We really do feel we need 14.8 more"?

General GAVIN. We developed our program on the basis of 27, we got 12 and we are asking for the 14 difference.

I believe that is an accurate statement.

Senator SYMINGTON. I yield to the distinguished Senator from Washington.

Senator JACKSON. I just have 1 or 2 questions, Mr. Chairman.

If this has already been covered why we will forget about it.

COMPARISON OF UNITED STATES AND SOVIET HELICOPTER CAPABILITIES

What is the largest size helicopter developed by the Russians that we know about?

General HOWZE. It is the so-called Horse.

We are not in possession of very intimate knowledge on the Horse needless to say. It appears to be very similar to the H–16, which was a development by a company now called Vertol up in Philadelphia—the H–16, and presumably the Horse, since it looks to be about the same size, is apparently a 5-ton interior load helicopter.

That would make it bigger than the biggest one we have.

Senator JACKSON. Isn't it a fact that the Russians have at least developed and had flying a larger helicopter than we have been able to produce?

General HOWZE. They have had more of that large type flying. I believe I am correct in saying that four of those have been seen in one flight.

Senator JACKSON. And how many troops could they carry, say combat loaded?

General HOWZE. As an estimate?

Senator JACKSON. Just as an estimate.

General HOWZE. As an estimate over a distance, a considerable distance say of a hundred miles, probably between 40 and 45.

Senator JACKSON. What is our maximum capability at the present time?

General HOWZE. At that range it would be about 30.

Senator JACKSON. And what we are trying to do now is to develop in this country a helicopter that the Russians have already produced.

I do not mean an exact copy but generally in this field, is that a fair statement?

General GAVIN. In that area, I think that is right.

Senator JACKSON. To summarize, aren't we lagging in relation to what the Soviet is doing in the field of helicopter lifts?

General HOWZE. I don't think very honestly we could say positively we are or we are not. I wish truly I could give you a direct answer on that but I don't think it is possible because you cannot accurately judge the capability of a machine by looking at it from the outside.

Senator JACKSON. But the machine has been flying around?

General HOWZE. That is true.

Senator JACKSON. Hasn't it?

General HOWZE. That is true.

Senator JACKSON. There have not been too many more crashes than we have?

General GAVIN. They have done a number of remarkable things.

They have flown to the North Pole by their own statement.

Senator JACKSON. With the helicopter?

General GAVIN. Yes, they have.

Senator SYMINGTON. If the Senator will yield for a minute I do not understand. You have testified we have seen four helicopters of a size and character superior to anything we have. Yet you say you cannot tell by looking from the outside whether they are ahead of us or not.

These other services come in and say that in submarines and aircraft of various types they are ahead of us in quantity, and in planes are in the process of surpassing us in quality.

All we are trying to do is find out what your position is.

Senator Jackson has asked you some questions as to how big they were.

How many people can that one carry? (Indicating.)

General HOWZE. For 100 miles about 30 troops.

Senator SYMINGTON. And how many can the one the Russians have carry?

General HOWZE. Our estimate is about 45 troops.

Senator SYMINGTON. And you say that it is comparable to the one that was up at Vertol?

Where is that now?

Have you any production for that?

General HOWZE. No, sir.

Senator SYMINGTON. Why?

UNITED STATES ARMY CANNOT AFFORD TO KEEP UP WITH SOVIET HELICOPTER DEVELOPMENT

General HOWZE. We do not because it was decided by the Army not to proceed with the production of that aircraft.

Senator SYMINGTON. Was that a decision of funds or a decision of policy?

General HOWZE. I should say both, sir, but I am sure that the very high cost of that aircraft was an important factor.

Senator SYMINGTON. You don't care about getting any helicopters as big as the Russian helicopters, is that right?

General HOWZE. No, sir, that is not correct.

Senator SYMINGTON. Then you correct me because that is what I understood your testimony just was.

General HOWZE. No, I am sorry that I gave you that impression.

We would like very much to have a helicopter of that capacity in the Army; it appears that within the means available to us——

Senator SYMINGTON. What do you mean by the word "means"?

General HOWZE. I am talking about money, sir.

Senator SYMINGTON. Money?

General HOWZE. Yes—that we cannot afford that.

Now whether or not we will arrive at a substitute for that at a later time I am not prepared to say.

Senator SYMINGTON. You mean a substitute for money?

General HOWZE. No, a substitute for the aircraft that we now are no longer to proceed in developing.

I am talking about the H–16.

Senator SYMINGTON. I am sure Senator Jackson, who spent a great deal of time with the Army in Korea last summer, would like to know the facts.

Senator JACKSON. I was just interested, General Howze, in developing this helicopter situation.

As a matter of fact our designers are of Russian birth, aren't they, some of the principal ones?

General GAVIN. Many of our best are.

General HOWZE. Sikorsky is.

Senator JACKSON. Sikorsky?

General HOWZE. True.

Senator JACKSON. And the Russians have over the years been quite successful in this art, at least in Russia?

General GAVIN. That is right.

Senator JACKSON. If my understanding is wrong I want to be corrected.

INCREASING IMPORTANCE OF MOBILITY

General GAVIN. This is correct, both in the airplane and the helicopter industry, and of course we have many outstanding aerodynamics people, such as Strukoff, Seversky, and others.

Senator JACKSON. The Russians are placing great emphasis on mobility, are they not, in their reequipment program for their divisions?

General GAVIN. They are indeed, yes.

Senator JACKSON. Looking at your 5 and 6 functions on the board up here that you laid out in your statement, those functions, of course, have existed in the past prior to the concept of atomic warfare; isn't that correct?

General GAVIN. Yes.

Senator JACKSON. Now with the development of atomic arms, isn't the significant thing the need for even greater mobility?

General GAVIN. Yes, we think so.

Senator JACKSON. Than you have had heretofore?

General GAVIN. Yes.

Senator JACKSON. The battlefield is bigger; isn't it?

General GAVIN. That is right.

Senator JACKSON. So that in almost all of those functions—we can go through them one by one but I do not think it is necessary—if you are going to exploit the effectiveness of the atom you have to be able to mass and demass with great rapidity.

General GAVIN. That is right.

R. AND D. FUNDS ESSENTIAL

Senator JACKSON. And therefore the need for research and development funds in order to capitalize on the value of atomic arms is indispensable to your objective, is it not correct?

General GAVIN. Absolutely, I agree with that.

Senator JACKSON. The heart of this program it seems to me, Mr. Chairman, if we are going to have an atomic army, we have to have or the Army has to have the means of exploiting the full value of the atom, offensively and defensively, and time just runs through it in every direction in that concept of thinking?

General GAVIN. That is right, absolutely.

Senator JACKSON. I think that is all I wanted to say. I just wanted to get the philosophy understood.

That is why I think it is so important first of all that the Army have adequate funds to carry out its research and development program, and when they have reached sufficient maturity in their research, then they ought to be in a position to get those new means of moving troops in the large battlefield area just as rapidly as possible.

Otherwise we are not utilizing our funds to full value to capitalize on the limited number of ground troops we have.

General GAVIN. Yes; I would like to say in furtherance of the discussion on the H–16, sir, that after very careful and considered judgment, and dollars entered into this decision, we decided to drop the H–16 at this time anyway.

In the meantime we studied carefully the very dynamic situation that now exists in the short takeoff; vertical takeoff field with many

new types of propulsion and aerodynamic lifting means, such as: tilt wings, deflected slipstreams, boundary layer control, and many other things that are coming along. It appears to us that for the dollars invested we will get more. We have asked for more dollars for aviation research and development by our request for 14 million additional dollars.

SOVIET INVENTORY INCREASING

We have watched the Russian inventory with great care. General Howze has referred to seeing four of the H–16 type. I believe there are actually many more than that.

General HOWZE. I said, Senator, in one picture.

General GAVIN. I have seen a picture with many more than four landing commercial type sedans at a Moscow air show with their helicopters. They have flown large numbers of them, they have flown them long distances, and it gives you something to think about if you must meet these people in combat. It means they could put patrols behind us and take us apart unless we could match this type of mobility.

We have a whole family of aircraft here we are trying to move along. The thing that interests us particularly about this is we know we are on the threshhold of a great evolution in land warfare. All of these things combined with atomic weapons and complete new types of communication mean more than just taking a World War II army and adding to it.

From what I have seen in studying the Russian organization and documents, it is a matter of fact that they have added to their new division's mobility a great deal, but it looks to us as though they are in fact adding to the type formations they now have by increments with new things.

We hope to revolutionize our Army completely, and to do this it will take a complete exploitation of this field.

UNITED STATES PLANS TO MODERNIZE ARMY

Senator JACKSON. You plan to reequip your divisions for atomic warfare: some estimates are that it will run 175 million or 200 million dollars a division, won't it, I mean approximately?

General GAVIN. Yes.

Senator JACKSON. Wouldn't it be within the realm of reason, assuming what the Soviets have said about reducing their land armies to be true, isn't there also reason to believe that the armies that they are going to have will be highly mobile?

SOVIETS MODERNIZE ARMY

General GAVIN. No question about it.

Senator JACKSON. Well prepared and trained for atomic warfare?

General GAVIN. Absolutely.

Senator JACKSON. Offensively and defensively?

General GAVIN. I believe so.

Senator JACKSON. And so that unless we are equipped, there is no way of favorably matching what we have with the Soviets unless we

are in a position to maximize the capability of every infantry soldier that we have by carrying on the kind of research and development program and production of equipment that will make the army highly mobile.

We are talking now about mobility in the air but there are other factors, too.

General GAVIN. Yes, sir. The Chairman mentioned earlier qualitative advantage which we must have. If American know-how and ingenuity can give us any edge on the Russians it is in a field such as this where we have a mobility edge on them and a much higher qualitative army.

SOVIETS HAVE 175 DIVISIONS; UNITED STATES 14 COMBAT-READY DIVISIONS

Senator SYMINGTON. General, do you believe the Russians make good soldiers?

General GAVIN. Yes; I do.

Senator SYMINGTON. The Nazi armies would probably agree to that, wouldn't they, what is left of them.

General GAVIN. Absolutely.

Senator SYMINGTON. How many divisions do the Russians have now, roughly?

General GAVIN. The Russian alone is rated at 175 divisions, today.

Senator SYMINGTON. And how many have the Chinese Communists, how many are they rated at?

General GAVIN. I am estimating very roughly at this, at around 300 or some such thing as that as a potential.

Senator SYMINGTON. Let's match our allies with their satellites. So they have somewhere around 400 to 500 divisions; is that right?

General GAVIN. I think that is a good basis.

Senator SYMINGTON. How many divisions have we, counting training divisions.

Senator JACKSON. Allied?

Senator SYMINGTON. No; I matched our allies against the Russian satellites. The Russian satellites have some very fine armies.

How many divisions has the United States today?

General GAVIN. 19 divisions.

Senator SYMINGTON. How many not counting training divisions?

General GAVIN. I believe the figure is 14, sir.

Senator SYMINGTON. And how many of those 14 are static divisions?

General GAVIN. I believe, sir, one is a static division now.

Senator SYMINGTON. How many of those divisions we have are battle ready today?

How many of those divisions are ready to go into battle if the gong rings tonight?

General GAVIN. Mr. Chairman, as well as a division can be battle ready in peacetime I would say the remaining divisions are battle ready.

Senator SYMINGTON. Fourteen?

General GAVIN. Yes, sir.

Senator SYMINGTON. And so you have 14 as against 4 to 5 hundred, without knowing how many of theirs are truly battle ready.

OTHER DIVISIONS ON BOTH SIDES

General GAVIN. Of course we would have allies too.

Senator SYMINGTON. And so would they have satellites, which we did not count; isn't that correct?

General GAVIN. That is correct.

Senator SYMINGTON. They would have Poland, Czechoslovakia, perhaps Yugoslavia, East Germany, North Korea, and so forth.

You say they are making their army an army which recognizes the atomic situation. What you want is to do the same thing; is that right?

General GAVIN. I would put it this way, sir.

Senator SYMINGTON. Put it in your own language.

QUESTION OF QUANTITATIVE AND QUALITATIVE SUPERIORITY

General GAVIN. They are exploiting to the fullest the atom in my opinion, and they are developing, from the information I can get, isolated bits of equipment that make clear they are doing this. I would hope that we have more imagination and more ideas and are developing on a broader front than they are.

Senator JACKSON. Wouldn't you say this: Clearly they have the quantitative advantage in manpower.

General GAVIN. That is right.

Senator JACKSON. They have a greater number of infantry troops.

But they are out not only to maintain that quantitative advantage but they are also determined to have their divisions on a qualitative par at least with the United States.

General GAVIN. No question about it.

Senator JACKSON. Which will give them military superiority if they can achieve that objective?

General GAVIN. I would agree with that entirely, absolutely.

Senator JACKSON. Just one thing before we leave, Mr. Chairman, just one point.

LIMITED CAPABILITY

On page 2 it says:

The Army must have limited capability for air movement of army combat units within the combat zone.

Isn't that a little misleading?

General HOWZE. I wrote that word "limited" and what I meant by that was that the Army would not necessarily have to have all the capability within itself. It might under some circumstances——

Senator JACKSON. I do not know whether you meant within a limited battlefield area.

General HOWZE. No, sir; I meant within the combat zone but I meant under some circumstances where large bodies of troops would have to be moved it would not be untoward for the Army to ask the Air Force for assistance.

Senator JACKSON. Do you want to necessarily confine yourself? You are indicating that you may not in general move many by air?

General GAVIN. Perhaps the word is not well chosen.

Senator JACKSON. I think it creates a wrong impression.

You may correct it afterwards.

Senator SYMINGTON. I want to repeat my question.

What you all are asking for is to be put on a qualitative equality with what you know, or believe, the Communists have; is that a fair statement?

General GAVIN. No, sir; I could not agree with that.

Senator SYMINGTON. You say they have larger helicopters, and are trying to develop their army in recognition of atomic power. Do you believe we are doing the same, that qualitatively we are even with them?

General GAVIN. I think that we started doing it sooner.

Senator SYMINGTON. Than they did?

General GAVIN. I think we did, before they did.

Senator SYMINGTON. I want to make the record clear.

Do you think that qualitatively so far as our armies are concerned, we are equal to them, ahead of them, or behind them?

General GAVIN. Mr. Chairman, the word "qualitative" applies to so much. It applies to the intelligence attributes of the manpower, training, sense of dedication.

Senator SYMINGTON. I am only talking about equipment now.

SOVIET'S QUANTITY VERSUS UNITED STATES QUALITY

Mr. HAMILTON. You mean aircraft equipment?

Senator SYMINGTON. Yes.

General GAVIN. In gross quantity of equipment they are far superior.

Tank inventory as I recall it is in the order of 40,000 compared——

Senator SYMINGTON. I am talking about what you might call the scope of this hearing, organic air equipment.

General GAVIN. In this particular field here I have a feeling that in the overall picture we are ahead of them.

Senator SYMINGTON. Fine. Let the record show that.

Do you have some questions, Mr. Counsel?

WHAT ARMY HAS, WILL GET, AND NEEDS

Mr. HAMILTON. I would just like to ask the general if he would be so good as to supply for the record a statement as to the number and kinds of aircraft of this type that we now have in the Army, the numbers that are programed, and if those numbers are not adequate, what numbers would be adequate.

(The information requested has been supplied to the committee in classified form.)

General HOWZE. I stated in my initial verbal testimony I believe that "the Army must have a limited capability for the air movement of Army combat units within the combat zone."

By that I meant that the Army might, under some circumstances, require assistance by the Air Force in this respect.

The field army's own organic capability should include lift for the movement of its reserves, and the shift or relocation of units as the tactical situation might dictate.

Senator SYMINGTON. The hearing is now adjourned.

Thank you, General Howze.

(Whereupon, at 4:50 p. m., the committee was adjourned, to reconvene at 10 a. m., Friday, May 25, 1956.)

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STUDY OF AIRPOWER

FRIDAY, MAY 25, 1956

UNITED STATES SENATE,
SUBCOMMITTEE ON THE AIR FORCE,
OF THE COMMITTEE ON ARMED SERVICES,
Washington, D. C.

The subcommittee (consisting of Senators Symington, Jackson, Ervin, Saltonstall, and Duff) met, pursuant to recess, at 11:20 a. m., in room P-63, United States Capitol Building, Senator Stuart Symington (chairman of the subcommittee) presiding.

Present: Senators Symington, Saltonstall, and Duff.

Also present: Fowler Hamilton, general counsel; Ramsay D. Potts, Jr., associate general counsel; Fred B. Rhodes, legal consultant to Senator Saltonstall; Edward C. Welsh, assistant to Senator Symington; Ronald Friedenberg, and Wallace L. Engle, staff members.

Lt. Gen. James M. Gavin, Chief of Research and Development, Department of the Army; Lt. Col. Donald S. Bussey, Plans Directorate ODCSOPS, DA; Maj. Gen. Russell L. Vittrup, Assistant Deputy Chief of Staff for Military Operations, Department of the Army; Maj. Gen. Earle G. Wheeler, Director of Plans, Office Deputy Chief of Staff for Military Operations, Department of the Army; Jack L. Stempler, Assistant General Counsel, Department of Defense; Maj. Gen. Donald P. Booth, Assistant DCSPER, Department of the Army; Lt. Col. Oscar G. Goodhand, Army Aviation Directorate, ODCSOPS, DA; Lt. Col. Delbert L. Bristol, OCRD, DA; Lt. Col. Benjamin A. Spiller, Plans Directorate, OCDSOPS, DA; Mr. Armond G. Ammirato, Office Planning and Intelligence, OCOFT, DA; Theodore A. Georgevitch, Consultant for Special Equipment, OCSI, DA; Robert E. McDuffee, Chief, Aviation Branch, Transportation Intelligence Agency, Transportation Corps, DA; Lt. Col. George S. Andrew, Jr., Plans Directorate, ODCSOPS, DA; Lt. Col. Harris W. Hollis, Plans Directorate, ODCSOPS, DA; Lt. Col. William J. Lynch, ODCSLOG, DA; Lt. Col. Edward H. deSaussure, Plans Directorate, ODCSOPS, DA; Lt. Col. Claude C. Young, Plans Directorate, ODCSOPS, DA; Col. Arthur C. Small, OCRD, DA; Brig. Gen. John S. Hardy, USAF; Brig. Gen. Joseph B. Crawford, Deputy Director of Personnel Operations, ODCSPER, DA; Col. William P. Jones, Jr.; ODCSPER, DA; Col. Granville A. Sharpe, ODCSPER, DA; Lt. Col. Fred D. Clark, ODCSPER, DA; Lt. Col. Irving R. Obenchain, Jr., Special Assistant to Chief Signal Officer, OCSigO, DA; Mansfield T. Sprague, General Counsel, Department of Defense; Clark A. Morgan, OSD, Security Office; Bernard S. Bogdanowicz, OSD, Security Office.

Senator SYMINGTON. General Gavin, do you plan to have anybody testify this morning who has not been sworn?

General GAVIN. Yes, sir.

Senator SYMINGTON. Who is that?

General GAVIN. General Wheeler, and he will have with him about a half a dozen officers who may testify and I have with me a civilian in Russian Intelligence who will testify.

Senator SYMINGTON. Will you consider yourself sworn and ask the gentlemen who have not been sworn to rise and be sworn, please?

Gentlemen, will you raise your right hands?

Do you swear that the testimony you will give before this subcommittee of the Senate Armed Services Committee will be the truth, the whole truth, and nothing but the truth, so help you God?

(The following persons were sworn:)

General Wheeler; Lieutenant Colonel Spiller; Lieutenant Colonel Andrew; Mr. Georgevitch; Lieutenant Colonel deSaussure, and Mr. Ammirato.

Mr. HAMILTON. General Gavin, at the conclusion of the session yesterday, you were speaking to the point of Russian capabilities in the field of organic aviation, as you defined it, in comparison with our own; and more particularly, you were speaking to the research and development needs on the priority of these parts that arise out of that situation.

I wonder if you or your colleagues would care to speak further to the point of Russian capabilities in this field?

TESTIMONY OF LT. GEN. JAMES M. GAVIN, CHIEF, RESEARCH AND DEVELOPMENT, DEPARTMENT OF THE ARMY, ACCOMPANIED BY THEODORE A. GEORGEVITCH, CONSULTANT FOR SPECIAL EQUIPMENT, OCSI, DA.—Resumed

General GAVIN. Yes.

Mr. Chairman, I would welcome the opportunity to add further to the answers given yesterday.

Senator SYMINGTON. We mentioned we would appreciate any further information along those lines you could give the committee.

General GAVIN. Yes, sir, I have photographs of three principal types of helicopters that are of particular interest to us. I would like particularly to bring those to your attention as evidence of rather significant progress.

SOVIET HELICOPTERS

The first of these, sir, is the large twin-rotor helicopter that we discussed yesterday at some length.

Mr. HAMILTON. How is that designated, General?

General GAVIN. I would like to ask our civilian-intelligence expert in this field, Mr. Theodore A. Georgevitch, to give you a description of those if he will, please.

Will you describe that?

Mr. GEORGEVITCH. We have designated that helicopter the Horse, that is the United States code designation. The Russians call it the Yak-25. It is a tandem-rotor helicopter. It is a heavy-cargo type.

It has a payload capacity that we estimate at between 8 and 10 thousand pounds.

Senator SALTONSTALL. This is the Russian plane?

Mr. GEORGEVITCH. Yes, it is, sir. It was first seen during 1955 and is since believed to have gone into limited production in the U. S. S. R.

Senator SYMINGTON. What do you mean by limited production?

General GAVIN. Well, sir, we have seen as many as five of those helicopters at one time, and that was several months ago, and it is quite possible now that they have appreciably more.

Senator SYMINGTON. Do you think in other words that this is beyond any prototype effort; is that right?

Mr. GEORGEVITCH. Yes, it is beyond a purely prototype effort, sir.

Senator SYMINGTON. And what are we building of the same type?

UNITED STATES PROGRAM DROPPED

General GAVIN. We have one of those now flying. We had 2 but 1 was destroyed through an accident in flight while on test.

We have one in existence. However, we have had to drop the program.

Senator SYMINGTON. Why was that necessary?

General GAVIN. Well, we have been concerned about the very costly aspects of the program and further, however, we feel that in this field it may possibly be better if we would invest our money in other types, tilt wing, for example, and other types configuration than plain rotary-wing helicopters.

Senator SYMINGTON. You mean slow flying normal planes?

General GAVIN. A normal plane except that the engines tilt so as to give you a vertical or almost vertical lift, or the wings tilt. What I am saying, Mr. Chairman, is that we should invest sufficient resources into this field so as to give us a capability.

I would be reluctant at this time to recommend copying this type aircraft, but to us technically it is a clear evidence of rather remarkable progress that they have made. We have not been able to do that well.

Senator SYMINGTON. If you had enough money would you build both?

General GAVIN. At this time I would not, sir. It would take a great deal of money.

Senator SYMINGTON. In other words, you believe that your present course is a better course regardless of money?

General GAVIN. I do at this time, yes, sir.

Senator SYMINGTON. Senator Saltonstall asks a question that came up yesterday, and we were having this voting trouble all afternoon.

Senator, would you ask that question?

Senator SALTONSTALL. How much bigger is this plane than that biggest plane that you showed us yesterday morning that would cost a little over a million dollars?

That was your biggest plane, biggest helicopter.

General GAVIN. About 23 percent more lift.

Senator SALTONSTALL. More lift than now?

General GAVIN. Yes, sir.

SOVIET PROGRESS IMPRESSIVE

I have here in addition a photograph of one of the most significant developments that has come to our attention.

Now this is about 2 years old, and it shows the landing of what was reported to be a battalion of antitank weapons with supporting troops. It is close in configuration to one of our helicopters.

However, it is an improvement over ours in that it has a drop tail and a clamshell opening.

Again from just a technical point of view they have obviously made progress and they know what they are doing in that particular field.

Senator SALTONSTALL. Is this a heavier helicopter than the previous one you showed?

General GAVIN. That is not; no, sir.

That is much lighter, perhaps a third of the lift. But the technical aspects of the helicopter make clear that they are not bungling or following anybody else.

They went ahead and developed a new type of some worthwhile value.

Now I have a third type, which I first came across in photograph within the past few months, of inordinate significance to us. It is a small helicopter but is landing on the bed of a truck.

I would call your attention, sir, to the fact that that has very small engines, 20-horsepower motorcycle-type engines, twin rotors one over the other, which suggest stability.

Now we have a small helicopter in development that we hope to be able to put on the back of a jeep or trailer. (D)

Our experience so far has been that it has been rather unstable because of the very nature of the vehicle itself. This looks offhand from a photograph to be an improvement of our own design.

In my opinion I felt that we were making progress when we were putting them on the back of Army vehicles and using them for firing platforms. They are apparently well into that field. They know what they are doing.

Now these are the most significant rotary-wing type aircraft. There are a number of other small fixed-wing types, but all of these suggest clearly to us that they are making progress and technically they are accomplishing things and they seem to know where they are going.

IMPORTANCE OF POLAR OPERATIONAL CAPABILITY

I pointed out yesterday that they have flown to the North Pole. They are operating in very severe environmental conditions and learning a great deal of how to operate up there.

From the viewpoint of the United States Army the polar regions are of the utmost importance to us because here is an area where we are in direct physical contact with the U. S. S. R.

As we look ahead, we see considerable payoff in being able to put stations out on the polar icecap to detect missiles early in their flight, perhaps detect them at the instant of takeoff.

The ability to live out there, to reinforce out there, to explore and patrol out there may be of great importance to us in the immediate future in fact.

The fact that they are able to move out there with big helicopters and are doing that is of significance to us, too.

Senator SYMINGTON. Somebody once said that in any future war the Communists would be fighting in the climate they were accustomed to; whereas we for the first time would be fighting in a climate we were not accustomed to.

Is there any truth in that observation?

General GAVIN. There is a real possibility of that; yes, sir. Certainly there will be a lot of fighting up there.

Mr. HAMILTON. May I ask 1 or 2 questions for clarification?

General Gavin, you said that you had just gotten a photograph of this last Russian helicopter a few weeks ago?

General GAVIN. Yes, sir.

Mr. HAMILTON. Do you have any judgment as to the extent of their development?

SOVIET ADVANCES IN LIGHT HELICOPTER FIELD

General GAVIN. Yes. I would like to ask Mr. Georgevitch to comment on that further and I know he is in a position to do so.

Mr. GEORGEVITCH. Sir, you speak of this light helicopter?

Mr. HAMILTON. Yes.

Mr. GEORGEVITCH. Yes, we think that they are quite advanced in that particular design, sir. Their first prototype is believed to have appeared as early as 1948, and this one that you see here is an improvement of that particular model, and we have indications that in the past 2 years they have come up with several other models of that type helicopter.

One is covered by fuselage that would be suitable for all-weather operation, and this one that has been shown in the photograph, unfortunately the only photograph we have, is an open aircraft and of course would not be suitable in adverse weather conditions.

We have also indications that this helicopter is standard now and is actually used by the Soviet Army in East Germany.

Mr. HAMILTON. Thank you.

Senator SYMINGTON. Senator Saltonstall?

Senator SALTONSTALL. General, I was interested in your remark that you felt that this third type that is landing on a truck was of tremendous interest or importance, I forget the exact words you used.

General GAVIN. Yes, sir.

SIGNIFICANCE OF SMALL HELICOPTER

Senator SALTONSTALL. That interested me because isn't it just as easy to put a helicopter ahead under her own power as to waste the capabilities of a truck, particularly if you are in a country outside our own?

General GAVIN. Well, sir, from an operational point of view it appears about like this: First of all, the type helicopter we had in development to fly off a truck was a fuel consumer. It consumed a great deal of fuel.

Next, we did not know quite when we would want to use it, but when we did want that altitude, extra altitude, we really wanted it at that very moment. (D)

QUESTION OF WHETHER SOVIETS ARE AHEAD

Senator SYMINGTON. General, in order that the Congress understands your position on this matter, do you feel we are equal or ahead or behind the Communists in this particular type of development?

General GAVIN. Mr. Chairman, I would like to be very clear on this point. I am not sure but that I had some difficulties getting an accurate answer into the record last evening. It is difficult to get intelligence in this area on the Russians. These three fragments we have suggest to me that they are ahead of us in those areas, quite clearly they are ahead of us.

However, I, and I believe my colleagues in the research and development business, too, believe that in other types of aircraft such as tilt wings, perhaps the exploitation of boundary layer control with small aircraft, rotated engines, we may be out in front.

We have no evidence to the contrary.

Now in this state of affairs in the past we find we were behind when we thought we were ahead. So it is very difficult to say. If we are ahead, we are not far ahead and then only in some areas.

NEED MORE FUNDS

Senator SYMINGTON. As I remember the testimony yesterday you asked for $21 million-plus in fiscal year 1956.

You were allowed $12 million-plus and have now put a reclaimer in for $14.8, is that about right?

General GAVIN. Yes, sir. This year we have $12.5 million and we have put in for 14.7 additional.

Mr. HAMILTON. For the sake of the record, may I ask you please, General, to state to what projects those funds relate?

General GAVIN. The 14.7?

Mr. HAMILTON. Yes.

General GAVIN. I can give it to you item by item in just a moment here.

Senator SYMINGTON. Just in general.

Mr. HAMILTON. In general, the field of research and development to which these funds relate.

General GAVIN. Until we get out the exact data here——

Senator SYMINGTON. Would it be the field of organic aircraft?

General GAVIN. Oh, yes, sir; organic aircraft and also flying test development.

We have several different type engines under consideration, and several different type configurations of aircraft, and a certain amount of basic research likewise.

I have it right here in a more detailed breakdown. Stability and control and aerodynamic effects, basically research really, component developments such as engines and the like of that, vertical takeoff flying test beds, T–55 turboprop engine, a flying crane, a new observation helicopter, that sort of item.

Generally a broad approach to the field of engines, components and frames and new ways of combining them.

Mr. HAMILTON. Do you have any other projects that are not covered by the list to which you are referring which relate generally to the field of what you have described as organic aviation?

General GAVIN. No, I do not. I would like to say this, however. That these amounts of money are not of great magnitude, and the field now of our approach is relatively narrow.

With the further investment it opens up more. It is a very dynamic new field, and I would say that if one were to invest well in the field, you would get so much more basic knowledge that then you could find areas for profitable investment of further resources.

At the moment 14.8 would allow us to do as well as we could, we feel.

FUNDS THE LIMITING FACTOR

Mr. HAMILTON. If you were able to obtain those funds, do you think you could find the resources in the way of competent research organizations and skilled personnel to conduct projects that the funds would finance?

General GAVIN. Yes, I do.

Mr. HAMILTON. So that the limiting factor on your activity would be funds, rather than lack of resources that the funds could purchase?

General GAVIN. Yes, sir, at this time.

I say, however, we have asked the Department of Defense for these additional funds and they may be forthcoming.

Mr. HAMILTON. In connection with your research and development in the field of organic aviation, to what extent is your desire to move into this field motivated by Russian developments or in response to Russian developments?

General GAVIN. Well, we cannot be unmindful of what they are doing, but our motivations so far have been almost entirely to carry out our own concepts, and that is why I mention the fact that we are surprised when we find them coming up with hardware that can do what we are trying to do sometimes a little better than we are able to do because they seem to be going into the same field of tactical mobilities in an atomic environment.

ORGANIC AVIATION IMPORTANT

Mr. HAMILTON. How do you appraise the importance of organic aviation in its relation to the overall role of the Army in the modern atomic age?

General GAVIN. It is one of the most important parts of our program, by far one of the most important things we have.

Mr. HAMILTON. Thank you, sir.

General GAVIN. That concludes the additional comment I would like to make.

Senator SYMINGTON. Who is your next witness, General?

General GAVIN. Sir, none on this program.

General Wheeler is here to discuss the airlift requirements of the Army when the committee is ready to hear him.

Senator SYMINGTON. Right now.

Mr. HAMILTON. Do you have anything else you would care to add on this subject?

General GAVIN. No, sir, none at all.

Senator SALTONSTALL. Just on one of those items I would appreciate clarification.

You said something about an air train?

General GAVIN. Air crane, sir.

Senator SALTONSTALL (spelling). C-r-a-n-e?

General GAVIN. Yes, sir. There is a school of thought that holds that the helicopter basically is a lifting device and it is really no good for flying in horizontal flight; it is very inefficient.

This colored our thinking in the H–16 project, and a flying crane is merely a device that is built to lift across a river and set down with heavy tonnages.

Mr. HAMILTON. Thank you, General.

TESTIMONY OF MAJ. GEN. EARLE G. WHEELER, DIRECTOR OF PLANS, OFFICE, DEPUTY CHIEF OF STAFF FOR MILITARY OPERATIONS, DEPARTMENT OF THE ARMY

General WHEELER. Mr. Chairman, I will now present a statement on the Army's interest in airpower.

First I shall discuss airpower generally and then I shall discuss tactical and strategic airlift requirements.

Since Major General Howze has covered the Army military aviation program, I shall not discuss that area of interest.

ARMY INTEREST IN AIRPOWER

The Army is, of course, very much concerned with the whole subject of airpower, just as we are interested in seapower. The Army has every confidence in the capability of the Air Force and the naval air arm to fulfill their combat functions should the need arise. However, the Army's interest in airpower extends beyond the air battle.

We must use the vehicles of the air and the ships of the sea to extend our military land power to distant areas in order to perform the Army's role in insuring the security of the Nation. More specifically, the Army's interest extends into four elements of airpower that are beyond its own resources:

(1) CONTROL OF AIR IN BATTLE AREA

First, we must have a reasonable degree of freedom from attack by enemy aircraft in order to conduct our ground combat operations. We depend upon air and naval air forces, together with our own antiaircraft weapons, for this protection.

(2) LONG-RANGE DEPLOYMENT

Second, we require the use of long-range aircraft to deploy strategic Army forces rapidly to any area of the world. If our national policy is to be fulfilled, these Army forces must be transported speedily, not only in general war, but also in cases of local aggression in order to prevent the hostilities from expanding into a general war.

Such an airlift capability in being is a deterrent in itself, and the likelihood of Communist aggression is thereby reduced. The provision of such air transport is an Air Force responsibility.

(3) INTRATHEATER AIRLIFT

Third, the Army must depend upon the Air Force for airlift of Army troops and supplies within the theater of operations. Moving major Army forces and supplies for long distances, even within the same theater, is beyond the capability of organic Army aviation.

Such intratheater airlift will become increasingly necessary in future land operations, which will be characterized by long-range penetrations, wide flanking movements, and vertical envelopments. We must hit the enemy at his weak spots and gain a victory with greatest possible speed at the least possible cost.

(4) AIRCRAFT FIREPOWER

Fourth, the Army presently has a direct interest in firepower delivered from aircraft in support of ground operations—another responsibility of the Air Force.

Such tactical air support enables the Army commander to place fire on targets beyond the range of his organic weapons. As we integrate rockets and missiles into the Army fire support system we are increasingly able to provide much of this needed fire support with our organic weapons.

I have mentioned the Army's interest in airlift. I would like at this time to treat this subject in more detail. I will cover the Army's requirements and the reasons therefor, and the Army's understanding of what the present airlift capability is to meet these requirements.

TWO TYPES OF AIRLIFT

The Army is concerned with two types of airlift—tactical airlift and strategic airlift. Tactical airlift is needed for airborne assaults; that is, a combination of parachute-drop and air-landing of combat troops to seize a military objective. Strategic airlift, on the other hand, relates to the long-range movement of troops and supplies from one area to another wherein the troops are not normally engaged immediately in combat.

TYPES OF PLANES USED

For tactical airlift, the Air Force provides us with the C–119 and C–123 type aircraft shown here, the C–119 normally for the parachute element and the C–123 for the followup landing, which may be on unimproved airfields.

For strategic air movement, a larger type aircraft with greater range and greater load capacity, such as the C–124 shown here, is utilized.

Senator SYMINGTON. If I may interrupt, have you the figures as to how many of these airplanes are available, or in production or on order.

General WHEELER. We have certain of those figures, sir.

Senator SALTONSTALL. And also how many people are in these planes.

General WHEELER. We can give you those figures.

Senator SALTONSTALL. What is the carrying capacity?

Colonel SPILLER. 42 parachutists in these 2.

Mr. HAMILTON. Would you name, please, for the record those planes?

Colonel SPILLER. The C–119 and the C–123, 42 parachutists each. They normally are parachute dropped out of this aircraft, the C–119 aircraft, whereas they are air-landed in the C–123 followup. This is the 124 and that can carry 112 parachutists or it can air-land 200 infantry soldiers, just air-landing, not being dropped.

TACTICAL AIRLIFT

General WHEELER. Now to elaborate on tactical airlift.

The Army's interest is threefold: to meet the initial requirements of general war; for military operations in case of local aggression; and for training of airborne troops.

In general war, airborne assault operations would prove valuable in seizing avenues of approach, reinforcing troops already engaged in combat, and exploiting enemy reverses. (D)

In situations short of general war (similar to those in Indochina and Korea, for example), airborne assault operations afford a means of coping with guerrilla activities swiftly and mounting operations in the enemy's rear areas.

MEANING OF TERM "GENERAL WAR"

Senator SYMINGTON. By general war do you mean all-out war?

General WHEELER. Yes, sir.

Senator SYMINGTON. No reservation war?

General WHEELER. No reservation, sir.

Mr. HAMILTON. If I may just follow up on one point, General, does that also assume the unlimited use of atomic weapons?

General WHEELER. We are considering an atomic, the use of atomic weapons; yes, sir.

Mr. HAMILTON. Without limitation as to size; is that right?

General WHEELER. Yes, sir; without limitation as to size.

Senator SYMINGTON. That is what you mean by general war?

General WHEELER. Yes, sir.

EMPLOYMENT OF TACTICAL AIRLIFT

In any combat situation, tactical airlift would be necessary in a theater of operations for such missions as logistic support, movement of major unit reserves, and evacuation of casualties.

As you know, we are increasing our airborne units slightly to a total of three airborne divisions. These units must be trained; therefore, tactical airlift must be available to them.

TACTICAL AIRLIFT SHORT OF REQUIREMENTS

The Army has stated on a joint basis a requirement for tactical airlift. The number of aircraft needed to meet this general war requirement will also meet the requirements of local aggression and peacetime training. (D)

The Air Force capability, as we understand it, is presently sufficient to lift about one division.

This is short of the requirement just referred to. (D)

TERMS

Senator SYMINGTON. For definition what is an RCT?
General WHEELER. That is a reinforced regiment, sir.
Senator SYMINGTON. It is a regimental combat team?
General WHEELER. A regimental combat team.
Senator SYMINGTON. How many men in it?
General WHEELER. It would run about 3,800 to 4,000, sir.
Senator SYMINGTON. And how many men have you in a division?
General WHEELER. The new-type division has about 12,000 in it, sir.
Senator SYMINGTON. Thank you.

STRATEGIC AIRLIFT

General WHEELER. As to strategic airlift. One facet of the Army's interest in strategic airlift stems directly from national security policy which requires the United States to have military forces with sufficient strength and mobility to react swiftly to Communist local aggression in order to defeat such aggression and prevent its broadening into general war.

MOBILITY

In order to do this, we must have strategic mobility, which I would define as the ability to shift combat-effective forces over long distances and to supply these forces efficiently after development. Normally, air transport provides the highest degree of such mobility.

Upon the Army rests the responsibility of providing ready forces to defeat local aggression in concern with air and naval forces. These ready forces must be capable of rapid deployment in order to be effective. They must reinforce expeditiously United States or indigenous forces already engaged or fight unassisted if required.

For these reasons, the Army is in the process of making its units air transportable to the extent feasible.

STRATEGIC AIRLIFT SHORT OF REQUIREMENTS

The Chief of Staff of the Army has expressed the requirement for substantially more airlift than is currently available, should an emergency arise. (D)

The magnitude of the airlifted service troop and supply requirement would vary, depending upon the availability of United States bases in the area and the speed with which a sea line of communications could be established. (D)

ALL SERVICES NEED AIRLIFT

Senator SYMINGTON. As I understand it, there is a requirement for lift of the Strategic Air Force, correct?

General GAVIN. Yes, sir.

Senator SYMINGTON. And that airlift is not to be touched because it always has to be ready in case we are hit with an atomic attack; is that correct?

General GAVIN. Yes, correct, sir.

Senator SYMINGTON. And there is also an airlift that is required by the Navy?

General GAVIN. Yes, sir.

Senator SYMINGTON. There is also an airlift required by the Army?

General GAVIN. Right, sir.

Senator SYMINGTON. It is required by the Army.

ARMY NEEDS AIRLIFT IN ADDITION TO THAT NEEDED BY NAVY AND AIR FORCE

As I understand, you have to have airlift, in addition, if the gong sounds, to the airlift of the Navy and the airlift of the Air Force. The Army too must have airlift set aside for rush operations for the Army; is that right?

General GAVIN. Correct. (D)

AIR FORCE RESPONSIBILITY

Senator SALTONSTALL. So that is my understanding correct, that the Air Force would bear responsibility on D-day to move forward their supplies and their spare parts, etc., and that it also is an agreed understanding that they should have the capability also of moving the Army requirement at that time? (D)

General GAVIN. They have got to have that capability. In this area we come into conflict with other requirements

LIFT REQUIREMENT INCLUDES SUPPORTING SUPPLIES

Senator SYMINGTON. When you say lift you also mean properly support; don't you?

General GAVIN. That is right.

Senator SYMINGTON. You don't want to get men out in combat and then let them dry up for lack of food and ammunition.

General GAVIN. That is correct.

Senator SYMINGTON. So you mean lift plus proper support; do you not?

General GAVIN. That is right, sir.

SUBSTANTIAL ADDITIONAL LIFT CAPABILITY NEEDED

Senator SYMINGTON. As I understand it, in the first 30 days you must be able to lift substantially more than the one division previously referred to?

General GAVIN. That is right, sir. And even after the 30 days, additional lift capability would be needed. (D)

IMPORTANCE OF SAC REQUIREMENT

Senator SYMINGTON. Why do you bring the SAC story into the picture?

General WHEELER. Because, sir, they have of course an extremely high priority in the demand on available airlift.

Senator SYMINGTON. I understand that, but inasmuch as we started off by saying you could not touch the SAC airlift, why is it pertinent to what we are asking now?

General WHEELER. Because, sir, we get into the question of overall availability of aircraft at a later time.

Senator SYMINGTON. But we are not discussing at a later time. We were asking you about the requirement of the Army for the first 30 days.

General WHEELER. I see your point, sir. I missed the assumption part of it.

Senator SYMINGTON. What you are really saying is that if the war is decisively handled in the first planning period, weeks or months, then the SAC airlift would be available for the Army, is that right? I am only trying to follow you.

General GAVIN. I would like to say this problem has concerned us very much. SAC must have its airlift. It must be ever ready at all times. I feel very strongly about that. If this implies a serious shortage in lift for the Army this is what it is but I believe SAC must be ready to go.

Senator SYMINGTON. The reason the question seems pertinent to me is that there did not seem to be agreement between the Chief of Staff of the Army, or whoever represented him in the briefings last winter, and the Chief of Staff of the Air Force, as to what the airlift agreement was.

General GAVIN. I see.

Senator SYMINGTON. It was cloudy.

ARMY HAS LIFT REQUIREMENT AT OUTSET OF WAR

What we would like to know is not what airlift you have after SAC. It is what are your requirements for airlift per se?

General WHEELER. I am coming into that, sir.

Senator SYMINGTON. Perhaps I am overlaboring it. My excuse for taking this amount of time is that Senator Saltonstall's question intrigued me. I wanted to know whether the additional airlift capacity of lifting and supporting (D) divisions anywhere is required in the first 30 days.

My understanding is you said yes to that, is that right?

General WHEELER. That is correct, sir.

Senator SYMINGTON. Thank you.

REQUIREMENTS VARY FOR DIFFERENT THEATERS

General WHEELER. For example, a division force moving to the west European area, where there is an established base, would require much less tonnage of airlift than a force moving to Bangkok or Saigon where there is no United States base.

The airlifted tonnage for the division going to an area such as Europe is in the neighborhood of five or six thousand tons, whereas the tonnage for the division going to Saigon is about twice this or 11,000 tons.

Senator SYMINGTON. Let me ask this question.

Is that the original tonnage, or does it include an estimate for supporting that force; and if so, what part of the 11,000 tons is included?

General WHEELER. The 11,000 tons includes about 6 days of supplies, sir. The 5,000 tons includes no supplies.

Senator SALTONSTALL. Includes what?

General WHEELER. No supplies, sir.

Mr. HAMILTON. Does that account for the difference?

General WHEELER. Not entirely because the 11,000-ton division is really a division force.

There are certain technical troops added to handle the supplies to support the division.

Mr. HAMILTON. Am I right in the impression I have that the preponderant proportion of the additional 6,000 tons is supplies?

General WHEELER. It is supplies and equipment.

Mr. HAMILTON. For a 6-day period?

General WHEELER. For a 6-day period.

The 5,000-ton division consists of the combat echelon, with a minimum of technical service troops and no accompanying supplies. It is designed to land in an area where there are operating logistical facilities which can furnish the supplies and equipment needed to sustain the unit in combat.

The 11,000-ton division is what we call a "division force" as contrasted to the combat echelon of a division. It is so organized with combat and service elements and an initial level of accompanying supply (about 6 days) that it could engage in combat promptly upon arrival.

AVAILABLE AIRLIFT AGAINST REQUIREMENTS

Now for the airlift capability available to meet these requirements, as known to the Army.

The Army and Air Force have worked out a plan for moving the 5,000-ton division to various areas of the world. However, the movement of the 11,000-ton division, the unit which could engage promptly in combat operations in an undeveloped area, has not been worked out. This latter study is now being undertaken on a joint basis.

In order to lift one 5,000-ton division, practically the whole of the available Air Force transport capability would be utilized.

You will recall that I said earlier that the Chief of Staff of the Army considers that there should be enough strategic airlift to move a large ready force; most of which should be moved in the first 30 days in an emergency, together with supplies and service troops to support the combat echelons. (D)

Considering that the divisions moved might of necessity be of the 11,000-ton type rather than the 5,000-ton type, a number of questions come to mind.

QUESTIONS NEEDING ANSWERS

For instance, can airbases enroute to the operational area handle such a large air movement? Could aircraft of greater range and greater tonnage capacity alleviate the situation?

Would pre-positioning of service troops and supplies in or near probable areas of operations be advantageous?

Could the Civil Reserve Airfleet capability be made available in sufficient time and numbers to be effective in an emergency? What would be the priority of airlift allocations among the several services?

So far, I have been speaking mainly of the problem of adequate airlift to meet situations short of general war. I would now like to mention general war requirements.

AVAILABLE CAPABILITY INSUFFICIENT FOR GENERAL WAR

The services have examined the problem of whether or not the combined capability of the military transport aircraft and the Civil Reserve Airfleet is adequate to meet wartime requirements. These studies were predicated upon the projected airlift capability in 1957. It was found that the combined capability would not be adequate to meet the requirements of all the services during the first 30 days of general war.

It would be possible to establish priorities and to meet various selected requirements but not to satisfy simultaneously the estimated needs of all services.

SOLUTIONS NEEDED

To sum up, I have endeavored to point out the Army's interest in airpower and our requirements for tactical and strategic airlift. I consider that the problem areas are clear although the solutions are not so readily apparent. I am sure we all agree that our national security and commitments require early solutions to these problems.

That concludes my statement, sir.

Senator SYMINGTON. Thank you, General.

Mr. Counsel?

Mr. HAMILTON. Thank you, sir. Yes; I have some questions.

General Gavin, I think you mentioned the agreement as to the Army's need.

General GAVIN. Yes, sir.

Mr. HAMILTON. For airlift?

General GAVIN. Yes, sir.

Mr. HAMILTON. I wonder if you could elaborate somewhat as to what the nature of that agreement is.

Am I right in my impression that it is agreement between the Chiefs of Staff of the Army and the Air Force?

General GAVIN. Yes. I have been party to prolonged discussions on this problem in the operational and planning area for some time. I would like to comment on it.

I want to be sure to, but I would like in the meantime to ask General Wheeler, who is currently in the operational planning area, to refer to your question, sir.

Senator SYMINGTON. Senator Saltonstall, you said you may have to go. Do you have any questions on airlift?

Senator SALTONSTALL. I appreciate that, Mr. Chairman.

QUESTION OF PRIORITIES

I think the only question I have at this time, General Gavin, is what do you consider the higher priority from your point of view in the Army with relation to airlift, going ahead with the development of helicopters and the other airplanes that we saw yesterday or going ahead with the development of this airlift that you are talking about today?

If you had to choose between the two, which one would you choose?

General GAVIN. It would be very difficult to choose between the two because they are in fact complementary.

If you would ask me to choose if I may say so between other types of combat aircraft and transport, I would certainly choose transports now for an accelerated development program. But between the transport and the small Army organic aircraft, I do not know that I could choose.

They are quite different, sir. They perform entirely different functions.

Senator SALTONSTALL. That is a good conservative answer to a very difficult question. I realize it is a difficult question and I realize they are complementary.

Assume we just have X dollars that we can go forward with. If you as an able commander of an airborne division during a war had to choose between the weapons that you are going to use when you land on the ground or the means of getting there, which would you choose? I was just curious to know.

General GAVIN. Yes, sir.

I am afraid I would straddle and divide my money both ways and put what I considered a fair amount in transports and the remainder in the ground weapons systems because I would need both to do my job.

QUESTION OF AIRLIFT AGREEMENT BETWEEN ARMY AND AIRFORCE

Senator SALTONSTALL. To follow up on one question that the chairman asked, is there complete, distinct, and unequivocal understanding between the Air Force and the Army with relation to this airlift of the Army within the first 30 days?

You stated this morning that there was. The chairman brought out that it was a little bit foggy in our earlier briefings and I agree. It was my understanding in the briefing 2 years ago that the Air Force did not expect that there would be a position where the Army could be put within the first 30 days so important as to require an airlift within the first 30 days.

General GAVIN. Yes, sir.

Senator SALTONSTALL. Now is there one where it is required to be able to move the Army within the first 30 days—you say that?

General GAVIN. Yes.

Senator SALTONSTALL. Is that coordinated plan, assuming we have the capabilities, agreed upon?

General GAVIN. This is just the problem that General Wheeler was about to comment on, sir, and I would like him to do that.

General WHEELER. Sir, last fall there started a series of discussions on the question of the Army's requirement for strategic airlift. (D)

At that time after extended discussion, sometime in the early winter, I would say about November, the whole matter was undertaken for study on a joint basis. The results of that study have not yet been forthcoming.

Senator SALTONSTALL. Thank you, Mr. Chairman.

(Senator Saltonstall left the hearing room.)

ANSWERS NEEDED TO BASIC QUESTIONS

Senator SYMINGTON. If I may interrupt a minute, you can ask a question. Can we lift a division?

That is one question. Then you can ask a question, Can we lift and properly support a division? Your answer may be totally different in reply.

Then you can ask a question, Can we lift and properly support a division overseas? Your answer again might be entirely different.

Then you might ask, Can you lift and properly support a division in Europe; or can you lift and properly support a division to Saigon?

Those are various delineations. Each is different. What we are interested in here is not the presentation of a problem but its solution.

For example, Could we or could we not take a deluxe DC–6 and drop paratroopers from it after modifying in a short time; or could we or could we not put tanks into C–119's or 124's or 132's? We presume that you want to tell us all about that.

You close by saying:

> To sum up, I have endeavored to point out the Army's interest in airpower and our requirements for tactical and strategic airlift.
>
> The problems are clear, although the solutions are not so readily apparent.

With that I agree, even after your briefing as I thought before. You say:

> I am sure we all agree our national security and commitments require all solutions to these problems.

Well, what do you think we called these hearings for?

I don't mean to be contentious, but this is my fourth year on the Armed Services Committee, and before that I had a relationship over a period of some 5 years in the Pentagon, and I still do not know yet what is the Army's requirement for airlift.

If you say you may be able to use some SAC lift and the Air Force says you are not going to get SAC lift, then all you have done is cloud the issue instead of clarifying it.

Then you say there is a chance you may be able to use some MATS lift, but that is in the problematical stage. General Gavin knows I have been interested in this subject for a long time.

We hoped that we could dissect this demand and find out, if you need any more airlift, what do you need?

It would seem to me, for example, that it might be necessary tomorrow, based on a situation like that in the Middle East to lift and properly support a division to the Middle East.

I may be wrong, but that is the way the world looks to me.

The question then is, could you do it with what you have and could you do it quick enough?

Do war plans envisage lifting and supporting a second division, and in that case, could you do that quick enough also?

As I understand it, you might, or might not, get SAC lift to help you. I do not think you can accept SAC help as a premise, unless you know you definitely can get it, because if the situation comes to peripheral war fighting, and we have testimony peripheral war was an excellent possibility and should be handled to avoid general war, then I do not think SAC is going to let you take their lift. This is with the premise that peripheral war might develop into general war.

I have talked too much but what we would like to know this morning is what lift you have, whether it is enough, and if it is not enough, how much do you need to make it enough, 1, 2, and 3.

ARMY'S REQUIREMENT IN TERMS OF TROOPS AND SUPPLIES

General WHEELER. Mr. Chairman, the matter of the Army's requirement is stated to the Air Force not in terms of aircraft but in terms of numbers of troops or troop units and supplies that we need moved, because they are the experts and we figure that if we give them the requirement, they then can translate that into terms of the aircraft available and give us a time by which they can make the movement.

That is the reason, sir, that my statements of requirements in my presentation were in terms of divisions and regimental combat teams, rather than so many C–124's, C–119's, and so on.

Senator SYMINGTON. I did not mean that.

MATS

General WHEELER. Now, sir, as to availabilities, MATS has some 447 aircraft and TAC about 144 aircraft, of different cargo types. (D)

Now when we go to MATS to talk about a plan, and we place our requirement for the plan, they must come back at us on the basis of what is available to them.

In others words, what aircraft they can take from other tasks worldwide and make available to the Army.

ARMY IS AIRLIFT CUSTOMER

Senator SYMINGTON. It is hard for me to follow that.

Suppose you are a customer and go into a store to buy a suit, and the tailor says to you, "I am not sure I have any suits to sell you."

How long is he going to be your tailor?

General WHEELER. Probably not very long, sir.

Senator SYMINGTON. Don't you take a position before this committee about what you need, regardless of how much the Air Force says it can supply?

General WHEELER. I think that I have tried to state that, sir.

In other words, the procedure for getting Army requirements approved, placed on record, is to present them jointly in the form of a requirement. Then when approved, they become a part of the program of the appropriate service, in this case it would be the Air Force, sir.

Senator SYMINGTON. Let me just try to present it another way.

SAC'S AIRLIFT

SAC is a customer of the Air Force for lift. It is a command of the Air Force.

General WHEELER. Yes, sir.

Senator SYMINGTON. It is a component part of the Air Force.

General WHEELER. Yes, sir.

Senator SYMINGTON. Nobody ever talks about SAC's lifting something that may be able to be supplied to them. SAC's lift is SAC's lift, and it is held for SAC.

General WHEELER. That is right, sir.

Senator SYMINGTON. And nobody touches it.

General WHEELER. That is right, sir.

Senator SYMINGTON. I would guess—without LeMay having some remarks to make about it.

General WHEELER. I am sure of it, sir.

ARMY HAS NO AIRLIFT CAPABILITY OF ITS OWN

Senator SYMINGTON. Now is there any lift that you have that is Army lift; or are you just in a pool, hoping to grab as much as you can if the gong rings?

General WHEELER. Sir, you stated earlier the correct thing. We are strictly customers. In other words, we have no lift which is available to us 100 percent of the time.

We ask by stating the requirement to the Air Force for what we need.

Senator SYMINGTON. Suppose, if the gong rings, the lift is not available to the Army.

Who is responsible for that?

General WHEELER. Then, sir, it becomes a matter of priority of allocation to be made by the Department of Defense.

In other words, Defense must choose among the many requirements for airlift and assign the available airlift to the appropriate users.

ARMY AIRLIFT UNCERTAIN AND INSUFFICIENT

Senator SYMINGTON. In an effort to be constructive, what you are saying is you really don't know where you stand on airlift; do you?

General WHEELER. That is correct, sir, except if I may extend that a little bit, it is my personal opinion that the Army needs more airlift.

Senator SYMINGTON. So the only thing you really know is you have not got that suit?

General WHEELER. That is right, sir.

Senator SYMINGTON. Maybe you have the pants?

General WHEELER. Well, the seat is out of those, sir.

Senator SYMINGTON. The seat is out of those?

General WHEELER. That is right.

Senator SYMINGTON. The next thing we would like to develop is, how much more would you need in order to be not extravagantly dressed but adequately dressed from the standpoint of airlift.

General GAVIN. May I comment on that, sir?

Senator SYMINGTON. General, I would appreciate your comments at any time because there is nothing more important, the way the world is today. If something happens and we cannot move it is going to be most unfortunate.

MINIMUM NEED: ONE DIVISION CAPABILITY PER THEATER OF INTEREST

General GAVIN. I think General Wheeler has been doing very well under difficult circumstances because he has been party to numerous joint discussions in which compromise is inevitably the product of such discussion.

The Army in my personal opinion has as a very minimum, as a very minimum, the need for a capability to lift one division in each of our major theaters of interest.

Senator SYMINGTON. Simultaneously?

General GAVIN. Yes, sir; I will say so and I will explain why. Ⓓ
In the European area today are available the most immediately available reserves to reinforce the Middle East and deal with any serious situations that may develop in that area.

Now this is not theoretical, it is quite real.

I have commanded troops in Europe within the past several years and these problems have come up and they are a matter of daily planning in that area.

KOREAN LESSON

One must be able to move a balanced team. We do not want to go through the experience of Korea again where we sent two rifle companies and a battery of artillery to meet I do not know how many North Korean divisions.

Estimates vary from 4 to 6. If we send a force——

Senator SYMINGTON. Four to six divisions.

How many troops would that be?

General GAVIN. Well, in troops perhaps on the order of 60,000.

Senator SYMINGTON. And how many did we send to meet them?

General GAVIN. We sent a task force of 2 rifle companies, 1 battery of artillery, which totaled about 550 men.

Senator SYMINGTON. What you are saying is that because of lack of lift, we sent 550 men to fight 60,000 Communists.

General GAVIN. That is right, sir, we did. We had to do it.

AIR MOBILITY ESSENTIAL

Now then, we have troops in the European area, and they must have air mobility. They must have air mobility to be able to respond to the demands of national policy to reenforce our allies or carry out any operations deemed necessary in the Middle East, in the eastern Mediterranean area.

Now this lift would not always be flying troops. Actually that would really vitalize our LOC. Ⓓ

Senator SYMINGTON. LOC?

General GAVIN. Line of communications.

We would be able, with such a lift, to be able, we would be able to develop, in my opinion, a modern air line of communications. It would have many worthwhile by-products, a reduction of sizable stockpiles in the European area, development of electronic means of requisitioning and thus reduce stockpiles at home as well.

ADEQUATE LIFT WOULD REDUCE PIPELINE COSTS

Senator SYMINGTON. At least one high-ranking Air Force officer said it ought to reduce costs considerably.

General GAVIN. And it would reduce costs because you would not have obsolescence in the pipeline.

This is a mere by-product of a capability of this character. Now, in addition, of course, we would have the ever-ready ability to deal with the situation.

MOBILITY ESSENTIAL TO OFFSET NUMERICAL SUPERIORITY

To put troops now into an operational area and deny the mobility is much the same as putting a policeman on the street corner but tying him to a fireplug.

If he cannot go anywhere he really can't do anything except shoot the weapons in his hands at the range of those. He must be able to move. The evident lack of mobility on his part invites aggression at once because it is realized he cannot move to the scene of trouble.

So mobility is the very essence in this day and age of getting about. Furthermore, and this applies to all theaters, mobility just about multiplies what you have.

You multiply what you have by mobility and the product of these gives you your effectiveness at any area around the periphery.

So mobility compares with firepower. And while we talk so much about firepower such as atomics, mobility is very much part of the equation in our favor. We have got to have good mobility if we are going to use these weapons we have.

Senator SYMINGTON. In other words, firepower really means nothing unless you have mobile capacity to deliver it?

General GAVIN. Exactly, sir, this is quite true.

ROLE OF PARACHUTISTS

Now, then, to return to the North American Continent area, we have in the North American Continent now a Western Hemisphere Reserve. This organization sent a battalion of parachutists to Greenland this past winter where they jumped in conditions of 40 below, they had very light casualties, some 7 casualties, and did a splendid job.

An ability to do this sort of thing at once makes evident to any aggressor that even in a temporary seizure of areas in the Greenland-Iceland area one cannot get away with this sort of thing.

Of course, while we look to the northeastern area as being of tremendous importance to us, as for example missiles sites and the like of that, we also have the northwestern area, the Alaskan area which must be held. (D)

MINIMUM REQUIREMENT IN UNITED STATES

A divisional lift in the United States in my opinion is really minimum. This is rock bottom and of course it could be used in the United States for training too and for moving supplies and so on.

Senator SYMINGTON. That is one division of lift in the United States?

General GAVIN. Yes, sir; and it is a minimum in my opinion.

Senator SYMINGTON. I have always thought you are right on this.

One high defense official stated the American people just won't want to see a lot of airlift lying around, sitting around.

There are a lot of American people, in high places, who apparently don't want to see a lot of B–52's lying around. It is just a case of whether or not you want to pay for what you need if you have to fight, in order to fight the best you can with the right equipment. (D)

CONTROL OF THE AIR

General GAVIN. Yes, sir; of course the obsolescent rate on transports is very favorable from an economic point of view compared to bombers.

Senator SYMINGTON. Once you control the air you can get planes in regardless of how old they are.

If you do not control the air you cannot get them in regardless of how new they are; is that a fair statement?

General GAVIN. That is right.

Now in the far eastern area we are particularly interested in that area because of the span of water. I was again in Plans during the time of the Dienbienphu and Hanoi Delta problems, Quemoy, Matsu, the need to possibly reinforce Formosa with supplies if not troops ultimately.

AIR LIFT VERSUS SEA LIFT

And at once one is struck by the need to move rapidly by air. It is almost meaningless to talk about 30 days later one will get there in this day and age. You must move by air. And the Philippines complex——

Senator SYMINGTON. If I follow you, what you mean is you could not move by sea without endangering the loss of the battle before you got there.

General GAVIN. That is correct. That is what I am saying. (D)

It may not all be in one area, but that order of magnitude lift is required to meet our problems extending from the Japanese area down to the Philippines-Thailand area.

Now these are in my opinion the minimum requirements, and any above and beyond those are in pipelines, in training and the like, but those should be ready operationally. (D)

Now, sir, these are just tactical. And these merely deal with the problems in these geographic areas, and solving these is just the first step in dealing with peripheral actions.

REINFORCEMENT LIFT REQUIRED

You must reinforce at once and here is where we really need strategic lift, and I would again be of the opinion that we must be able to reinforce in each major theater simultaneously, at the outset. (D)

Now this would be the overseas LOC, line of supply really, whereas the other smaller plan would be the theater supply.

QUESTION OF ONE DIVISION LIFT CAPABILITY

Senator SYMINGTON. To the best of my knowledge the Air Force has never claimed they could lift and properly support overseas more than a single division.

General GAVIN. I think they would have great difficulty doing this. I do know that——

Senator SYMINGTON. You mean they would have great difficulty handling a single division?

General GAVIN. Yes, sir.

Senator SYMINGTON. I do not think they have ever claimed they could do more than a single division, but you say they should have

capability of lifting and supporting other divisions; is that right?

General GAVIN. Yes, sir; in my opinion they should, and we are well short of that capability now. (D)

Senator SYMINGTON. You mean you do not believe the Air Force could lift and properly support a single division overseas?

General GAVIN. They would have great difficulty if there were any other demands made upon them at all.

UNCERTAINTY OF LIFT AVAILABLE FROM OTHER SOURCES

I must say I have been party to this discussion and planning for some years, and I look with considerable doubt upon the wisdom of planning a lift based upon the availability of part of SAC or part of MATS.

If there is an international situation critical enough to require the performance of forces maximum, I believe SAC should be on an ever-ready basis.

Senator SYMINGTON. SAC you could not get.

General GAVIN. Sure I agree with you, sir.

Senator SYMINGTON. You would never get SAC lift I am sure of that.

I must fly west this afternoon.

We will recess until 2.

(Whereupon, at 12:35 the committee was recessed, to reconvene at 2 p. m. the same day.)

AFTERNOON SESSION

Present: Senators Symington (presiding), Duff and Saltonstall.

Senator SYMINGTON. The Chair apologizes for being late.

General Gavin, will you and the other representatives of the Army consider yourselves sworn, please?

General GAVIN. We will, sir.

Senator SYMINGTON. Mr. Counsel, will you proceed with your questions?

TESTIMONY OF LT. GEN. JAMES M. GAVIN, AND MAJ. GEN. EARLE G. WHEELER—Resumed

Mr. HAMILTON. General Gavin, am I right in the impression I have got from the testimony of you and General Wheeler that you think your requirements for airlift, for sufficient airlift to move one division, within each of the theaters of major interest, in addition to the strategic airlift required, which I have the impression was airlift from one theater to another—— (D)

General GAVIN. Yes, sir, and this is important, this categorization because they are different types of aircraft.

Mr. HAMILTON. That is what I was coming to.

Could you describe in a general way the difference between the types of lift involved?

General GAVIN. Yes, indeed.

REQUIREMENT OF SIMULTANEOUS LIFT IN EACH THEATER

Mr. HAMILTON. If I am correct now, what you were talking about was the requirement to be able to have on hand, if necessary for use simultaneously so to speak, airlift that would move divisions within the theaters of major interest.

General GAVIN. That is right.

Mr. HAMILTON. And in addition, strategic airlift capable of moving divisions intertheater, so to speak. (D)

General GAVIN. That is correct. The first category of airplane, the tactical airlift, would be the C–119, C–123 and when it becomes available, the C–130.

I believe that we are in complete agreement in this with the Air Force.

TYPES OF AIRCRAFT

Mr. HAMILTON. You mean as to your requirements, or as to the types of aircraft?

General GAVIN. As to the types to perform a tactical function. For the strategic airlift the C–124 now available, the C–132, when it becomes available, and then I believe the C–133. There are two new aircraft about to come into being—C–132 and the C–133.

Senator SYMINGTON. 124, 132 and 133?

General GAVIN. Yes, sir.

Senator SYMINGTON. You put one in TAC instead of SAC?

General GAVIN. Yes, sir, it is being secured for that purpose.

Mr. HAMILTON. You testified, General, those are your requirements.

AIRLIFT NEEDED

Are those requirements now being met in the sense that there is airlift now available adequate to meet that standard?

General GAVIN. May I make clear for the record that in my opinion these are the requirements that should be met.

General Wheeler discussed the agreed requirement in the sense of what all three services would agree could be met.

Mr. HAMILTON. Would you mind, for the sake of the record, against the background of this discussion, giving a statement as to what that agreement is as to capacity, so to speak?

General GAVIN. I would like to ask General Wheeler if he would reply to that question.

General WHEELER. We have placed a requirement for tactical airlift for more than one airborne division. (D)

Mr. HAMILTON. By tactical airlift you mean airlift within one of the theaters?

General WHEELER. That is correct, sir, any one of the theaters.

Mr. HAMILTON. Is your requirement for tactical airlift of that size simultaneously available within each of the theaters?

General WHEELER. No, sir; that would be the total for all theaters.

Mr. HAMILTON. Then the requirement that you have placed is less than General Gavin's testimony?

General WHEELER. That is correct, sir.

Mr. HAMILTON. As to what you believe to be your requirement?

General WHEELER. That is right.

The requirement—and I also said this morning, sir, that this requirement is presently being resolved—the requirement for strategic airlift——

Mr. HAMILTON. Why do you say it is presently being resolved?

General WHEELER. It is under consideration.

Mr. HAMILTON. Is the capacity presently available to meet that requirement?

General GAVIN. May I say in answer to the question you want to know the present available numbers of transport, I presume?

Senator SYMINGTON. Will the counsel yield?

Mr. HAMILTON. Certainly.

FUTURE REPLACEMENT FOR OBSOLETE C–119's

Senator SYMINGTON. For tactical airlift you use ordinarily C–119's and C–123's. Is that right?

General WHEELER. That is correct.

Senator SYMINGTON. What percentage of the number of C–119's you need do you have?

General WHEELER. About 84 percent.

Senator SYMINGTON. Do you have a replacement coming along for those obsolete C–119's?

General WHEELER. Yes.

Senator SYMINGTON. They will come in gradually, but you won't have those wings for some time. Is that correct?

General WHEELER. That is correct. (D)

INFORMATION COMES FROM AIR FORCE

General WHEELER. These figures of course we obtained from the Air Force. This is a prediction from the Air Force.

Senator SYMINGTON. But you get their production schedules on the planes you need, don't you?

General WHEELER. Yes, sir; they inform us, and this is information that they have given to us.

Senator SYMINGTON. Have you the production schedule here?

General WHEELER. No, sir, we do not.

Senator SYMINGTON. Will you check it and see how many they plan and then correct it for the record, if necessary?

General WHEELER. I will do that, sir.

(The information requested has been supplied to the committee in classified form.)

DEMAND EXCEEDS SUPPLY

Mr. HAMILTON. How many aircraft of these types involved in tactical air would you need to meet your stated requirement to lift several divisions within the theaters of major interest; would it be much greater than the number you have now?

General GAVIN. Yes, that is correct. (D)

Mr. HAMILTON. Turning now to the strategic type of airlift which goes between the theaters, I wonder, General, if you could give us what your requirements are in that regard, stated in terms of the types of aircraft that can now be used for that operation?

General WHEELER. Sir——

Mr. HAMILTON. If you do not have it at hand you can supply it for the record. (D)

Now on what basis is it figured?

HOW AIRLIFT REQUIREMENT IS FIGURED

General WHEELER. It is figured on the basis of time really that you want to go someplace and also the distance——

Mr. HAMILTON. You want to do it within 30 days?

General WHEELER. That is correct, sir, and also the distance that has to be traveled, so that it is a shuttle movement is what I am trying to make clear, sir, and in other words to say, or rather I would say it this way: I am not competent to state that we need so many C–124's in order to create the necessary strategic airlift.

Instead what we must do is give, so the Air Force who have the cognizance of this particular aspect of the problem, what our requirement is in terms of units and in terms of time and ask them to figure out what is needed for that purpose.

Senator SYMINGTON. If counsel will yield, What do you mean by the word "units"?

General WHEELER. By units, sir, we would inform the Air Force that we need to be able to lift —— divisions within the first 30 days of a conflict. (D)

Senator SYMINGTON. You have to tell how much——

General WHEELER. The tonnage, sir, and things of that sort, I included all of that under the term "units."

Senator SYMINGTON. If it is not a simultaneous lift, you have got to wait until you go over and come back, don't you?

General WHEELER. That is correct, sir.

Senator SYMINGTON. What would you say on an optimum basis would you need?

What would be the number that you think you could get away with from the standpoint of function? (D) I think we were only talking about one division simultaneously.

General WHEELER. I would like to ask my expert here if I might, sir.

REQUIREMENT FOR 1 DIVISION LIFT IN 30 DAYS

Senator SYMINGTON. One division in 30 days you talked about before.

What would you need on that basis?

Colonel SPILLER. Sir, the MATS plan which is for a 5,000-ton division uses several hundred aircraft to lift that 5,000-ton division.

Senator SYMINGTON. The 5,000 ton is the European lift?

Colonel SPILLER. Yes, sir; an established base area.

Senator SYMINGTON. If you need an 11,000-ton lift what would that be?

Colonel SPILLER. You would need twice that much if you want to do that in the same time.

Senator SYMINGTON. Twice that plus. Is that it?

Colonel SPILLER. Yes, sir.

The way they work it, of course, is on a ton-mile requirement versus a ton-mile capability, and then figuring the ton-mile capability they

take the speed of the aircraft and the number of hours utilization they can get out of it. (D)

PRIORITIES FOR THE SAME AIRCRAFT

Senator SYMINGTON. How many 124's have you?

General WHEELER. None. MATS has ——— C–124's. (D)

Senator SYMINGTON. All those don't belong to you?

General WHEELER. None of them belong to us, sir.

Senator SYMINGTON. What I mean, they have other uses for them?

General WHEELER. Yes, sir. That is the point, sir. When I say none of them belong to us, I mean we do not have necessarily the use of any of MATS. This is on a request basis.

Senator SYMINGTON. Who else besides you expect to use the 124's? Does SAC use them now?

General WHEELER. Yes, sir; SAC uses them.

Senator SYMINGTON. How many does SAC use?

General WHEELER. SAC has about ——— C–124's. (D)

Senator SYMINGTON. Are they in the MATS figure?

General WHEELER. No, sir. Also, TAC has —— C–124's. (D)

Senator SYMINGTON. They are not in MATS either?

General WHEELER. No, sir. They are not figured in the MATS total either. (D)

Senator SYMINGTON. Is there any demand of SAC that you know of, or TAC, or are they all scheduled for you?

General WHEELER. The Strategic Air Command as I understand it, sir, has first priority on a major portion of transport aircraft of the Tactical Air Command. (D)

The Tactical Air Command of course needs a lift of its own in an emergency, not only that, there would be Navy demands on MATS in an emergency, and there would be Army demands on MATS in an emergency.

Senator SYMINGTON. Has TAC a priority on you on the 124's in MATS?

General WHEELER. Not that I know of, sir.

COMPETITIVE DEMAND—SHORT SUPPLY

Senator SYMINGTON. So you and the Navy and TAC, the premise being that SAC would take from TAC?

General WHEELER. That is right, sir.

Senator SYMINGTON. You and the Navy and TAC would have a Donneybrook as to who got the C–124's; is that right? (D)

That is about the way it would work, based on the last war, isn't it?

General WHEELER. That is right, sir.

Senator SYMINGTON. Yet the number MATS has altogether is considerably less than half of what you would need to lift a single division?

General WHEELER. That is correct. (D)

Senator SYMINGTON. This is very interesting testimony.

Proceed, Mr. Counsel.

Mr. HAMILTON. Why is it that more aircraft of this kind are not available to go to work and meet your requirements?

General GAVIN. May I interject a word, sir, in this connection, and I will address myself to that question in a moment.

NUMBERS OF AIRCRAFT DON'T TELL FULL STORY

There are two aspects of this that disturb me that we believe should not be overlooked in the record.

First, we deal with absolute inventory numbers; and airplanes, of course, do not fly that way. You never fly more than perhaps two-thirds or three-fourths at best of your inventory, so to the numbers required should be added about 25 percent and that is a very conservative figure, or the inventory should be reduced that much.

Next, it is a common practice in dealing with this problem to take the various types of assorted aircraft, Constellations, various Douglas craft and add them up as available tonnage and divide by your tonnage requirement.

Actually the size door, frequently lack of astrodomes for overseas flight, plus interiors, floor strength seriously limit those as available for these purposes.

That is why we carefully listed only those procured for this purpose.

Senator SYMINGTON. That is what we were talking about when I mentioned this morning the DC–6.

General GAVIN. Yes, sir.

Senator SYMINGTON. That kind of talk is just silly, but a lot of people put it around.

General GAVIN. Yes; I thought I should mention that.

Senator SYMINGTON. Some people in the airline business talk about it, for reasons which are peculiar to their own problems, don't they?

General GAVIN. Yes, sir.

AVAILABLE AIRLIFT INADEQUATE

Senator SYMINGTON. What you have really told us this afternoon is that your airlift picture is totally and completely inadequate to do the job, based on what you think you have to do. Isn't that correct?

General GAVIN. It certainly does not appear adequate at this time.

Senator SYMINGTON. You have 3 commands fighting for less than half of what the Army needs alone, and you say take away 25 percent from that; so I do not think my adjectives are far off.

Isn't that a fair way of looking at it?

General GAVIN. I would say so; yes, sir.

MORE TACTICAL AIRLIFT NOT PROGRAMED NOW

Mr. HAMILTON. Are there any plans or programs so far as you know, General, to make more airlift available in the next 3 or 4 years?

General WHEELER. The answer is "No, sir." It was brought out a moment ago that this replacement program for C–119's, for example, will take place over the next 3 or 4 years.

However, as we understand it, the total tactical airlift will be essentially the same, which is short of the requirement which I have already stated.

Mr. HAMILTON. Which in turn is far short of what you believe your total requirement to be? (D)

General WHEELER. Well, General Gavin stated a total requirement which was greater than the minimum requirement which I stated.

Mr. HAMILTON. Do you foresee any circumstances in the next 3 or 4 years that will reduce your requirement for airlift below these figures that you have just given us?

General WHEELER. No, sir.

Senator SYMINGTON. Are we phased out on the 124's or are we still building some?

General WHEELER. They are not being built.

Senator SYMINGTON. And what is to take their place?

REPLACEMENTS?

General WHEELER. The 133 is the first aircraft to take their place, then there is another aircraft under development, the C–132.

Senator SYMINGTON. And how many 133's have you in inventory?

General WHEELER. None, and only a few over the next several years. (D)

That is the program as far as we know it, sir.

Senator SYMINGTON. And they are roughly twice as big as the 124 in capacity?

General WHEELER. Not quite twice, sir. This is scheduled to be—is a 25-ton airplane as opposed to a 16.7 airplane.

Senator SYMINGTON. How many 133's have we?

General WHEELER. 133's, sir, or 130's—132's I mean. The 132's, sir—this aircraft is in a development stage, and we are told to expect even less over the next several years than we get C–133's. (D)

Senator SYMINGTON. So the 133's and the 132's are the planes that are scheduled to replace the 124's in strategic lift, right?

General WHEELER. That is correct, sir.

DEFICIENCY PROGRAM

Senator SYMINGTON. General Gavin just said that we are well behind, totally inadequate with our airlift. Based on the figures you have just read, we are carefully planning to stay behind. Isn't that a fair statement?

General WHEELER. Sir, it would seem to me that we are going to remain about in the status quo, sir, which is behind.

Senator SYMINGTON. You know the definition of status quo General Knudsen had. He said it meant the "hell of a fix we are in."

The testimony has shown that we are totally inadequate with respect to airlift for the Army. If the figures that you have given are correct, and presumably they are correct, we still plan to remain inadequate. Is not that a fair statement? (D)

General WHEELER. There is no program to correct it, sir, that I know of.

Senator SYMINGTON. To the best of your knowledge we plan to stay this way.

INFORMATION AVAILABLE

General WHEELER. I would say that that is correct, sir.

Senator SYMINGTON. Do you think if they were planning to build any aircraft of this character they would keep that information from the Army?

General WHEELER. No, sir. We get our information very freely.

DANGER OF PERIPHERAL WARS MAKES ARMY AIRLIFT MORE IMPORTANT

Mr. HAMILTON. General Gavin, maybe this question will be too general for you to answer it; if so, I know you will say so. But I think it might be helpful if you could give the committee the benefit of your opinion as to how important it would be to meet the requirements that you mentioned for airlift, in terms of the Army's mission in the field to which such airlift would relate.

General GAVIN. I believe that we feel that within the past several years there has been a change in the international situation which gives increasing importance to dealing with peripheral action.

For a number of reasons, perhaps the growing Russian atomic strength contributes to this.

But as the need to deal with peripheral actions has become more and more important with each passing month, more and more we realize that we must have strategic mobility, and, of course, within a theater we must have local tactical mobility.

Other than that general observation, I doubt that I could add much to the matter that this committee does not already know, sir.

Mr. HAMILTON. In view of your requirements for the aircraft, what are the reasons, if you know, why you don't have them?

OTHER DEMANDS ON BUDGET

General GAVIN. Well, there are many other requirements no doubt that must be met by the Air Force within their budget and by Department of Defense within its budget.

I should also mention one other point that would contribute directly to an understanding of this situation.

I mentioned it earlier, and that is that there are a large number of aircraft in MATS on the order of 300——

Mr. HAMILTON. In where, sir?

General GAVIN. MATS.

Mr. HAMILTON. For the sake of the record, those initials stand for what?

LIMITED AVAILABILITY OF MATS AIRCRAFT

General GAVIN. Military Air Transport Service. Of these types they are passenger aircraft, again with doors that are limited for the passage of individuals mostly, usually of rather weak floor strength, sometimes not equipped with the tiedown facilities and so on needed to move cargo, though some of them do have it, and I presume that it is assumed that in the event of an emergency, individuals could be transported in this type aircraft and perhaps some adjustment made to provide cargo lift in the regular cargo type aircraft such as the 124.

I mention this because this is an important factor in Air Force and MATS considerations.

Mr. HAMILTON. In your view is such an assumption, if it exists, a sound assumption from the standpoint of your requirements for airlift?

General GAVIN. No. In my personal opinion it is not, for this reason: First, as I stated earlier, it would seem to me that if the situation required the movement of forces on an emergency basis overseas,

MATS would have its peak load imposed upon it also and it would require nearly all of its aircraft to meet its missions.

Mr. HAMILTON. You mean for missions apart from providing airlift for the Army?

General GAVIN. I would think so, and furthermore if we took the 124's away from MATS, which are built and designed to Army specifications for troop carrier lift medium, heavy rather, if we took those away I would assume that it would be only sound to plan on the remainder being available for normal MATS functions.

So again I would not consider it sound to plan on the availability of all those type aircraft.

Senator SALTONSTALL. Mr. Hamilton, could the general give the number of those planes, or General Wheeler?

General WHEELER. A total of 447 aircraft. (D)

Senator SALTONSTALL. Those are planes in addition to those that you were testifying to through Senator Symington and Mr. Hamilton?

General WHEELER. In part, sir. About two-thirds of them. (D)

Senator SYMINGTON. Will you repeat those figures again, General?

General WHEELER. Yes, sir. The C–54 —— (D)

AGED AIRCRAFT

Senator SYMINGTON. That airplane is an obsolete nonpressurized low altitude 4-motored cargo plane. We sold them in 1945 at very low prices to the airlines.

Senator SALTONSTALL. As one who rides in one quite often I hope they are not quite as bad as that.

(Off the record.)

Senator SYMINGTON. The DC–4 is an airplane the Government sold as unnecessary surplus in 1945.

The 121 you have there—that is the Constellation, isn't it?

OTHER TYPES

General WHEELER. That is correct. (D)

Senator SYMINGTON. And what are the others?

General WHEELER. The C–118 and the C–97.

Senator SYMINGTON. C–97 is a stratoliner, isn't it, the same as a tanker?

General GAVIN. That is right.

Senator SYMINGTON. What is the C–118? I don't know that ship.

General WHEELER. It has a 12-ton capacity.

Senator SYMINGTON. Well, for the record furnish what the C–118 is.

I am informed it is the DC–6.

General WHEELER. DC–6B.

SUMMARY OF SUPPLY AND DEMAND

Mr. HAMILTON. I think it might be helpful if you could supply for the record a fairly detailed statement, listing your requirements as defined by General Gavin, planes that are now available to meet those requirements, (*a*), with respect to tactical airlift, (*b*), with respect to strategic airlift, and whether those planes are in inventory or available for operation.

And then with respect also to those figures, what changes in them would be made under present plans and programs, between now, say, and the period 1958–60, including the MATS planes that Senator Saltonstall was interested in. Then if you would care to do so, it might be helpful if you could add to that your understanding of what other branches of the armed services might be interested in utilizing some part or all of those planes in the event of a local emergency somewhere or a peripheral war of the kind that would require airlift, either tactical and/or strategic by the Army, so we will have it all together in one place.

Senator SYMINGTON. Senator Saltonstall.

Senator SALTONSTALL. I have just one question, General.

TIMING OF DEMAND FOR AIRLIFT

Maybe it is a question which can't properly be answered. That is this:

We have been talking about a proposition where, if D-day came, the Navy, the Army and the Air Force would all expect to move simultaneously and all these airplanes that we were talking about would be simultaneously demanded by all three services.

Now as a practical matter, presumably if D-day came, it might be a type of D-day where you would want an airlift for the Army, it might be a D-day where you would want the Strategic Air Force to move quickly or it might possibly be a D-day where the Navy had to move quickly, so that the proposition or the extreme exigency where our all-out effort would have to come within 30 days would not be too great to expect, would it?

That is a tough one but I mean that as a practical matter.

General GAVIN. Yes, sir. It is quite possible that it would not come in that way, all demanding at once.

Senator SALTONSTALL. That is what I understand.

And in building up our equipment, whether we should build more B–52's, or whether we should built more submarines, or whether we should build more tanks for you people is a question of judgment as to where we have got to go first.

The obvious answer to that is yes.

Senator SYMINGTON. I do not agree that is the obvious answer. I don't agree at all. I don't want the distinguished Senator to lead the witness into an illogical conclusion——

Senator SALTONSTALL. General Gavin did not answer.

Senator SYMINGTON. By his charm and personality.

Senator SALTONSTALL. I would like to have him answer "Yes."

QUESTION OF MONEY PRIORITY

Senator SYMINGTON. What you are doing is saying there must be decision whether to build B–52's, or submarines, or tanks, or airlift; and that there is some restraining power which says you have to make a choice of which of those three you will build.

Senator SALTONSTALL. Or how many of each.

Senator SYMINGTON. My reaction to the testimony is that each service has come in here and said sincerely what it needs. It is diffi-

cult if not impossible for them to put priorities on, unless you put the priority on money.

Then you get the discussion on a different basis. That was my only point. I do not think General Gavin could say there is any known priority between B–52's and submarines and Army airlift, except the priority of money.

I don't think anybody who believes all those weapons are necessary to the defense of the United States, especially since we have agreed it is essential to prepare for peripheral war as well as atomic war, would agree that the priority of money should be overwhelming.

Senator SALTONSTALL. I would agree with everything the distinguished Senator says, with one exception.

I would add the priority of money and the ability of our economy to carry forward all of these things at one time.

I would not dispute the Senator nor would I expect General Gavin to answer me obviously other than with the word I put into his mouth, that is, "Yes."

QUESTION OF DEFENSE COMPETENCE OF THE ECONOMY

Senator SYMINGTON. For the last 3 years our gross national product has increased steadily. But during each of those years we have spent less in percentage of that gross national product for defense than in the previous year. Also we have actually spent less in dollars than in the previous year.

I am not overimpressed with the danger of destroying our economy by expenditures in the military field. If a man is killed in one service, as he hits the drink because of an obsolete aircraft we felt he nevertheless should have instead of a modern aircraft that went to another service, I imagine he would raise some objections to the logic of that theory.

Senator SALTONSTALL. With that I would also agree with you, Senator.

Senator SYMINGTON. Senator Duff?

Senator DUFF. General, I would like to ask a couple of questions.

OPTIMUMS NOT ATTAINED IN PEACETIME

The first is, General, in your long experience in the service, has there ever been any time short of maximum war where the optimum of your requirements has been available?

General GAVIN. There is one word I missed, sir, the optimum requirements?

Senator DUFF. Your optimum requirements. Has there ever been any time in peace when the optimum estimated requirements of war have been met?

General GAVIN. Not to my knowledge.

COSTS INVOLVED

Senator DUFF. The other question, Mr. Chairman, that I would like to be part of the record is: What is the dollars and cents value that would be required to meet the optimums I have just described?

General GAVIN. As I understand it now, you would like for the record the cost of supplying sufficient lift for what I stated as our tactical and our strategic 30-day requirements.

Mr. HAMILTON. My understanding was, Senator Duff wanted the cost items added to that; is that right?

Senator DUFF. That is right, sir.

General GAVIN. This will take some digging.

For example, I know the present 119 sells for a quarter of a million dollars. (D)

Senator SYMINGTON. Oh, no; because if you put a production order in like that, you would get a figure far below.

General GAVIN. That would be so.

Senator SYMINGTON. We were buying fighter planes in World War II for $50,000.

General GAVIN. Unless my colleagues here have the figures, Senator Duff, I would have to furnish that for the record. It would be a sizable figure but in my head I do not have it.

Senator DUFF. For the overall picture we should have that.

General GAVIN. We don't have that overall figure.

Senator SYMINGTON. Will you place that in the record in accordance with Senator Duff's request?

General GAVIN. Yes, sir. (D)

(The information requested has been supplied to the committee in classified form.)

Senator SYMINGTON. Were you in the First World War?

General GAVIN. No, I was not, Mr. Senator.

Senator SYMINGTON. I did not think you were old enough.

But have you studied that war?

General GAVIN. I have in some detail.

HISTORICAL NOTES ON STATE OF UNITED STATES PREPAREDNESS

Senator SYMINGTON. Would you say that one of the reasons we had so many casualties, and lost so much money, was the fact we were not prepared when the war started?

General GAVIN. In World War I, sir?

Senator SYMINGTON. Yes.

General GAVIN. Well, we would have been much better off if we were better prepared.

Senator SYMINGTON. Let's go to a war you know a lot more about.

How about World War II?

General GAVIN. We could have been much better prepared for that unquestionably.

Senator SYMINGTON. We probably would have saved a lot of money; would we not?

General GAVIN. I would think so. I would apply this particularly to the Korean situation.

Senator SYMINGTON. And we would have saved a lot of lives in both Korea and World War II, would we not?

General GAVIN. Yes, sir, I think so.

Senator SYMINGTON. If we intend to fight to win, and don't give up, we are bound to have more casualties, aren't we, if we are not prepared?

General GAVIN. That is right.

Senator SYMINGTON. In addition, we have another problem.

In the past in all wars we have had a considerable length of time to mobilize; have we not?

General GAVIN. That is right.

LACK OF TIME CHANGES PREPAREDNESS REQUIREMENT

Senator SYMINGTON. This time one thing all the services agree on is that we will not have much if any time to mobilize if we are hit in a sudden all-out attack, is that a fair statement?

General GAVIN. That is a fair statement, I would say, and I would like to add to that that from the viewpoint of those who plan for military operations, whether it were an all-out war at the outset of a general war or even something of considerably less magnitude, I doubt that we will ever have the time to depend upon allies to fight for a year or two for us while we learn our lessons and mobilize.

I think we must be in a much higher state of readiness than we have ever been before.

Senator SYMINGTON. Isn't it also conceded, in modern military tactics and studies, that if anybody ever starts another war based on the experiences of the past 2 wars, 3 wars, that the first recipient of any attack would be this country, if it was an all-out war?

General GAVIN. This country in the sense of those representing this country?

ALL-OUT WAR INVOLVES UNITED STATES IMMEDIATELY

Senator SYMINGTON. Yes.

What they would want to do if they made an all-out attack on this country, would they not, would be to destroy our capacity for atomic retaliation, perhaps prior to the first target.

I am only asking now.

General GAVIN. Yes, I understand and I do not quite agree with that conclusion.

Senator SYMINGTON. That is interesting. Would you mind commenting on that?

General GAVIN. This is why I specified United States individuals, but not the geographical United States, would be the subject of the first attack. It may well be that our forces overseas would find themselves quite heavily involved.

Senator SYMINGTON. I can see that, but it would be simultaneous anyway, an attack on our capacity for strategic retaliation, wouldn't it, if it was an all-out war?

General GAVIN. Well, if it assumed the character of all-out war, this defines what it is, sir.

Senator SYMINGTON. Nuclear attack against the free world?

General GAVIN. An all-out war would involve an attack upon our capacity to retaliate with nuclear weapons.

Senator SYMINGTON. There might be a third type of war, might there not?

PERIPHERAL WAR

There has been much justification of the things the Army believes it needs to handle a peripheral war. One statement you made that

impressed me a lot was that you would have to be capable of fighting a peripheral war if you wanted to avoid an all-out atomic war.

General GAVIN. That is right.

Senator SYMINGTON. But as we approach what has been called the intolerable absolute, the atomic standoff, isn't it possible that we might fight what in effect was an all-out war, but still using weapons other than nuclear weapons; or do you think that is now passed?

USE OF TACTICAL ATOMIC WEAPONS

General GAVIN. I think that is still possible, a large scale war without a mutual heavy nuclear strategic exchange. However, I think now we are rapidly moving into the area of small precise tactical atomic weapons where we could have a sizable war involving a number of nations on both sides without again a strategic exchange.

Senator SALTONSTALL. What is that last word?

General GAVIN. Peripheral wars in several areas without a strategic exchange of nuclear weapons.

Senator SYMINGTON. Let me ask it another way because this is of great interest to the committee and should be to all Americans.

DEVASTATION

There was a very good article in Fortune on the new weapons. I think it said 110 bombs of a type that has already been dropped hitting this country at intervals of 10 minutes would destroy or maim some 70 million people.

General GAVIN. That is right.

Senator SYMINGTON. And leave hundreds of square miles of the United States uninhabitable for a generation.

That was a carefully worked up article. I would like the proper figures.

Now suppose that the Russians, who you have said were working rapidly towards an atomic army, and have the same concept you think is so important about accuracy in atomic weapons—suppose they announced they were going to fight and were not going to use hydrogen bombs, but were going to use kiloton stuff instead of megaton stuff.

We would have a decision to make as to whether we were going to use megaton bombs, would we not?

General GAVIN. We would have.

MODERN ARMY ESSENTIAL FOR FUTURE TYPE OF WAR

Senator SYMINGTON. And therefore as a military authority, you state that in your opinion there might be a war of that character, where you would use kiloton accurately, relatively accurate weapons, but did not use hydrogen weapons, is that a fair statement?

General GAVIN. In the future more likely than not I would say yes, sir.

Senator SYMINGTON. That tremendously increases the importance, especially as our Army is so small relatively speaking, to have it modern in every possible way, does it not?

General GAVIN. Absolutely.

Senator SYMINGTON. Adequate airlift and adequate weapons, is that true?

General GAVIN. Absolutely, yes, sir.

QUESTION OF MODERN ARMY VERSUS LACK OF FUNDS

Senator SYMINGTON. General, I just have a couple more questions.

Anyway you cut it, it is fair to say, is it not, that the reason you have the Army you have today instead of the Army you wish you had is because of lack of funds. Isn't that a fair statement, primarily because of lack of funds?

There could be mistakes in development and engineering?

General GAVIN. Yes, sir; there could be the possibility of the technological world in which we live that deters us; but of course you buy more technology with more money.

I would agree that money is the root of all evil, including money.

Senator SYMINGTON. Let me put it this way:

Wouldn't you say that the primary reason you do not have the Army you have come up here and testified you believe essential to the security of the United States, is lack of funds?

FINEST PEACETIME ARMY

General GAVIN. Well, I would like to say this if I may, sir, about that. I think the United States has today a very fine Army. I think that it has the finest Army it has had in peacetime.

It is an Army that is looking to the future instead of living in the past, as I hope our testimony of these last few days will support. We recognize the fact that our Army, the wellsprings of its strength are deep in American life and its strength comes from a very stable Government and a very sound economy and a healthy and expanding economy.

We would like to have more, we would like to have more in modern equipment, to be in a higher state of readiness and with more money we would be, but I would be reluctant to attribute the position we are in entirely to money because I feel that there are other people have other problems that cause them to look to other facets of our American life and thus cannot give us the money we want.

Senator SYMINGTON. I understand that and I am not asking you to comment on the logic or the wisdom or the lack of logic or wisdom of putting the economy ahead of what you think is necessary for our security.

I am not asking you to do that.

LACK OF FUNDS

All I am asking you to do is to tell the committee, with the frankness that people in high places who come up to the Congress have said should be used for their personal opinions before committees, whether or not the primary reason you do not have the Army which you say you think is necessary, for the security of the country, is lack of funds?

General GAVIN. Essentially it is lack of funds, yes, sir.

Senator SYMINGTON. That is what I was asking.

You said something about the strongest Army we have ever had before in peacetime.

SUPERLATIVES ONLY MEANINGFUL IN RELATIVE SENSE

I believe we have the strongest Navy that we ever had before in peacetime.

General GAVIN. That is correct, sir.

Senator SYMINGTON. And I believe we have the strongest Air Force we ever had before in peacetime.

General GAVIN. That is right, sir.

Senator SYMINGTON. But it seems to me that relative strength as against the strength of the possible enemy is what is important, would you agree?

General GAVIN. Yes, sir. I would say we have never had more obligations in peacetime either.

Senator SYMINGTON. Let me put it another way.

Would you rather have two runs in a ball game when your opponents had none, or would you rather have 6 runs in a ball game when your opponents have 10? You would prefer the former, wouldn't you?

General GAVIN. Prefer the former.

Senator SYMINGTON. And so if you say we are stronger than we ever were before in peacetime, which was the slogan just prior to Korea if you will remember——

General GAVIN. Yes, I remember.

Senator SYMINGTON. It really does not mean much if it is not balanced against the strength of the possible enemy?

General GAVIN. That is right, sir.

Senator SYMINGTON. I think so.

General GAVIN. Correct.

Senator SYMINGTON. Mr. Counsel?

Mr. HAMILTON. I have nothing further, sir.

Senator SYMINGTON. Senator Saltonstall?

Senator SALTONSTALL. Yes, just one question.

General, if you had 10 runs and your opponent had 8 runs, you would fight like the dickens to keep those 2 runs ahead, wouldn't you?

General GAVIN. I sure would.

Senator SYMINGTON. Senator Jim, would the Phillies like to cut into this?

Don't forget the Pirates.

Senator DUFF. I want to ask one question if you please, sir.

EFFECT OF RADIOACTIVE FALLOUT

Senator Symington has referred to the number of lives that would be lost according to this article in Fortune magazine.

I would like to ask you, sir, if we got into nuclear war and our strategic air force made an assault in force against Russia with nuclear weapons so that those weapons were exploded in a way where the prevailing winds would carry them southeast over Russia, what would be the effect in the way of death over there under those circumstances, in your opinion?

General GAVIN. I will give you an answer to this and I will give you a specific one, sir, but I would like to respectfully suggest that the Air Force or a proper study group give you this answer.

Current planning estimates run on the order of several hundred million deaths that would be either way depending upon which way the wind blew.

If the wind blew to the southeast they would be mostly in the U. S. S. R., although they would extend into the Japanese and perhaps down into the Philippine area.

If the wind blew the other way they would extend well back up into Western Europe.

And I use the figure "several hundred million," which contrasts with the estimates that you have quoted in Fortune magazine as being about several times lower.

Again though there have been studies made on this I know and they are very interesting and worthwhile.

Senator SYMINGTON. Will the Senator yield?

Senator DUFF. Yes, sir.

Senator SYMINGTON. My figure was on what would happen in this country only.

It did not have to do with the rest of the world.

But isn't it also true, following Senator Duff's idea, that if this radioactive material stays in the atmosphere a long time, the atmosphere stays with us a long time; and it could go around the world and back?

Doesn't the atmosphere revolve around the earth?

I am out of my field now.

General GAVIN. Yes, sir, if there are surface bursts, of course there is a great deal of residual aerosol coming from the contaminated dust and earth that travel about the earth.

If they are air bursts strontium 90 content increases and this continues to go up.

The type weapons we are talking about now available would cause considerable contamination in both of those categories. (D)

Senator SYMINGTON. Only this week I saw Dr. Ralph Lapp on the television and he said in effect we could destroy the world with what we were doing now, if we were not careful.

Then some other scientists, with probably just as many degrees behind their names, said what we were doing now was no more dangerous than the radium on a wrist watch. It is hard to find out what are the facts, but that is both the duty and the desire of this Committee.

Senator DUFF. My purpose, Mr. Chairman, in asking that question was to indicate that with the knowledge that the Russians probably have on the effect of that retaliation, that would be the kind of deterrent that would indicate it was not wise for them to start a nuclear war with our capacity to do that to them if they did.

General GAVIN. Yes, sir.

Senator SYMINGTON. Or at least an all-out hydrogen war?

Senator DUFF. That is right.

STRENGTH IN ALL SERVICES FAVORED

General GAVIN. Yes, sir. I should say to be sure there is no misunderstanding, I very strongly support a very strong SAC, a very strong Strategic Air Command.

The Army's views as for its own requirements merely are part of the overall picture, and part of that contains SAC with very effective and impressive strength.

Senator SYMINGTON. The Chair would say in closing that we believe, with the world the way it is we should have a strong Army, a strong Navy, and a strong Air Force, and that we can afford whatever is necessary to remain free.

INTERSERVICE COOPERATION IN R. AND D.

General GAVIN. Mr. Chairman, may I add one word, sir, to the record before we close?

With your permission I would like to. I have had the privilege of testifying before this committee now for 4 days on research and development essentially, although I have been into other areas.

This happens to be one area in which I enjoy the most friendly and cooperative spirit of cooperation with my colleagues in the other services.

General Putt of the Air Force, General Brentnall who works in missiles, have been most helpful.

We have a complete and free exchange of information. I do not think we duplicate our work, and furthermore we try out things on each other and we are getting a great deal done.

Admiral Rayburne in the Navy and Admiral Clark in the Navy have been most helpful and cooperative with the Army in research and development. We have a very fine working relationship and are dedicated to giving this country the best weapons system we possibly can to the end we will survive.

We are working well together and they are doing fine work for the Army.

Senator SYMINGTON. We are very glad to hear that. You are talking of the whole research and development field, or just missiles?

General GAVIN. All of the research and development, sir.

Senator SYMINGTON. Including missiles?

General GAVIN. Including missiles, yes, sir.

Senator SYMINGTON. Mr. Counsel?

Mr. HAMILTON. Nothing further, sir.

Senator SYMINGTON. Senator Saltonstall?

Senator Duff?

APPRECIATION

General, we are very grateful for the days you have spent with us, you and your staff, and we have certainly learned a lot and we deeply appreciate your coming up.

We may have you in open hearing and, if so, we will let you know when that will be.

(Whereupon, at 3:10 p. m., the subcommittee was adjourned.)

STUDY OF AIRPOWER

THURSDAY, MAY 31, 1956

UNITED STATES SENATE,
SUBCOMMITTEE ON THE AIR FORCE OF THE
COMMITTEE ON ARMED SERVICES,
Washington, D. C.

The subcommittee (consisting of Senators Symington, Jackson, Ervin, Saltonstall, and Duff) met, pursuant to recess, at 2 p. m., in room 212, Senate Office Building, Senator Stuart Symington (chairman of the subcommittee) presiding.

Present: Senators Symington, Jackson, and Duff.

Also present:

Fowler Hamilton, general counsel; Ramsay D. Potts, Jr., associate general counsel; Fred B. Rhodes, legal consultant to Senator Saltonstall; Edward C. Welsh, assistant to Senator Symington; and Wallace L. Engle, staff member.

Maj. Gen. Russell L. Vittrup, Assistant Deputy Chief of Staff for Military Operations, Department of the Army; Maj. Gen. Donald P. Booth, Assistant Deputy Chief of Staff for Personnel, Department of the Army; Brig. Gen. Joseph B. Crawford, Deputy Director of Personnel Operations, ODCSPER, DA; Brig. Gen. Ronald D. Salmon, USMC, Assistant Director, Division of Marine Aviation, Office of Chief of Naval Operations; Col. Louis B. Grossmith, Jr., Special Staff Group, HQ, USAF; Col. Granville A. Sharpe, ODCSPER, DA; Col. William P. Jones, Jr., ODCSPER, DA; Brig. Gen. George R. Mather, Deputy Director of Personnel Plans, ODCSPER, DA; Col. Paul H. Symbol, ODCSLOG, DA; Lt. Col. Fred. D. Clarke, Jr., ODCSPER, DA; Lt. Col. Irving R. Obenchain, Jr., OCSigO, DA; Captain McHugh, Captain Robertson, Captain Massey, Captain Outlaw, Commander Elkins, Commander Haller, Rear Adm. J. S. Russell, Comdr. W. W. Suydam, Comdr. M. F. Weisner, Comdr. R. E. Warner, Comdr. R. D. Macklin, Capt. S. R. Broan, Rear Adm. Griffin, Vice Adm. Combs, Capt. J. S. McCain, Capt. D. L. Martineau, Rear Adm. W. V. Davis, Capt. N. J. Frank, Jr., Capt. T. F. Connolly, Capt. S. S. Searcy, Captain McKee, and S3/c J. G. Mucheck; Jack L. Stempler, Assistant General Counsel, Department of the Army; Clarke A. Morgan, OSD, Security Office; Bernard S. Bogdanowicz, OSD, Security Office.

Senator SYMINGTON. This meeting of the Subcommittee on the Air Force of the Senate Armed Services Committee will now come to order.

Mr. Counsel, what is the first presentation?

Mr. HAMILTON. The first presentation is by the Army on personnel.

Senator SYMINGTON. General Booth, are you going to be the only one to testify?

General Booth. I have General Crawford, Colonel Obenchain and Colonel Sharpe.

Senator Symington. Will you all raise your right hands and be sworn.

Do you solemnly swear to this Subcommittee on the Air Force of the Senate Armed Services Committee that you will tell the truth, the whole truth and nothing but the truth, so help you God?

General Booth. I do.

General Crawford. I do.

Colonel Obenchain. I do.

Colonel Sharpe. I do.

Senator Symington. How long will your briefing be?

General Booth. About 25 minutes, sir.

Senator Symington. Admiral Combs, if you or anybody else would like to look at this you are welcome to do it.

General, have you a written statement here?

General Booth. Yes, I have.

Senator Symington. Would you like to read it?

General Booth. I would like to read it for the record and for the benefit of the committee, Mr. Chairman.

Senator Symington. Fine, will you proceed?

TESTIMONY OF MAJ. GEN. DONALD P. BOOTH, OFFICE OF THE DEPUTY CHIEF OF STAFF FOR PERSONNEL; ACCOMPANIED BY BRIG. GEN. J. B. CRAWFORD, DEPARTMENT OF PERSONNEL, DA; COL. I. R. OBENCHAIN, JR., DCSIGO, DA; AND COL. G. A. SHARPE, DEPARTMENT OF PERSONNEL, DA

General Booth. My remarks will be directed toward a discussion of the Army's personnel situation. After I have outlined for you our principal gains in the personnel field, as well as some of our unsolved problems, other officers will participate in this discussion. Our aim is to leave with you a clear picture of the Army's requirements for inducements to attract and hold dedicated and high quality personnel.

RELATIONSHIP BETWEEN MODERN WEAPONS AND PERSONNEL

The previous Army spokesmen have told you of certain improvements in the weapons and concepts for waging modern warfare. We want to sketch for you now the impact which these changes have made on the qualifications of the people who serve in the Army.

The destructive power of modern weapons has rendered obsolete the historical concepts of using massed human power. You are well aware that today's United States Army is looking for our success through the use of small units, rapid movement, and increased firepower. These small units will require the continuous operational readiness of complex equipment and many talented and skilled technicians and high quality junior leaders.

They will require also the continuous support of a large number and variety of complicated equipment manned by technicians in areas at some distance from the fighting units. The basic problems of personnel management are being magnified by these improvements in weapons and tactics.

TRAINING ESSENTIAL

The Army bases its hope for victory on the skills, stamina, and dedication of its people. The individual is so important to us that we spend a great deal of time and energy in his training and his integration into the team with which he performs his mission.

The training of these teams or units and the quality of the people who compose them are vital to us in modern combat. The Army is keenly aware of the considerations which influence the motivation and the dedication of its people because these factors are the instruments by which victory or defeat is measured.

PERSONNEL CEILINGS REDUCED

Since the end of hostilities in Korea, the Army has had to make certain important adjustments which deserve your attention. During this period the personnel ceiling of the Army has been reduced by approximately 311,000 military personnel.

At the same time the overall reduction was being made, the Army built up its guided missile and rocket units by about 50 battalions.

MODERN WEAPONS INTRODUCED

To increase mobility and flexibility, we have added helicopter and fixed-wing aircraft units, building up the personnel strength of the Army aviation program by about 6,700.

The Army has taken several actions to compensate somewhat with quality personnel for its losses in numbers. We energized our recruiting campaign, which has resulted in gratifying changes in the proportion of volunteers in the Army. We emphasized particularly our reenlistment programs in order to retain trained personnel and thus minimize the time and expense devoted to training.

REENLISTMENTS

We were successful with respect to our more senior enlisted personnel, but so far we have not succeeded sufficiently in retaining certain specialists, leaders, and other prior-service personnel who are important to us.

The improvement in the number of voluntary enlistments has brought some advantages, including 3-year terms of service for these volunteers instead of 2-year terms of service prescribed for the inductee, longer use of trained people, somewhat less travel and less frequent changes of personnel in our units.

Making full use of the Reserve Officers Personnel Act, the Army has, through its vitalization program, increased the retention of its career officer reservists and young ROTC graduates. Through the utilization of a system of unit rotation, called Gyroscope, the Army has achieved a marked increase in the esprit, stability, and combat capability of the men in these Gyroscope organizations.

Notwithstanding these and other improvements, there remain several unsolved problems. I will present briefly the magnitude and complexity of four basic personnel problems which are confronting the Army.

FOUR BASIC PROBLEMS

(1) REENLISTMENTS

First, there is the problem of reenlistments. Although our overall reenlistment rate is encouraging, personnel finishing their first enlistments are not reenlisting in sufficient numbers. The armed services are experiencing keen competition with private industry for those individuals who have completed their obligation for active military service.

This is especially true of those who have acquired certain technical skills in the services which are also in demand in civilian life. The failure of these individuals to reenlist creates for us a major problem in junior leadership, since we are thereby left dependent to a large degree on individuals who are in their first enlistment.

There is currently a 16,000 shortage of NCO's in the combat echelon of the Army. These shortages exist in 32 different skills. We lack, for example, among others, sufficient surface-to-surface missile-fire control chiefs and infantry light-weapons platoon sergeants.

Similarly, our reenlistment rate for technicians in support areas is disappointing. This situation requires us to operate many expensive schools in order to meet our requirements only to lose the schooled specialists and have to train more.

As an example, there is a present shortage of over 1,200 guided-missile installation electricians, where the reenlistment rate is only 6 percent. There are, in all, over 80 specialist categories which have shortages at this time.

(2) LOSS OF JUNIOR OFFICERS

A second problem concerns our junior officers. A majority of our junior officers are serving obligated tours following graduation from ROTC or Officer Candidate School. Most of them have no intention of remaining on active duty upon completion of their obligation. Less than 20 percent are motivated to continue active duty.

Of the remainder, however conscientiously they may serve, they are naturally looking forward to civilian careers. They may not in all cases provide an example of career motivation and some undoubtedly influence, although unconsciously, the enlisted men under them with the thought that a service career is not an attractive way of life.

This year, a higher than normal percentage of our young graduates of West Point are resigning as soon as they have served out their 3-year obligation.

(3) STANDARD OF LIVING

Surveys among both officers and enlisted personnel have revealed the fact that economic considerations cause many highly qualified people to leave the service. Frequent oversea tours and lack of adequate housing cause family separations unacceptable to many and disliked by all.

This leads highly trained and competent people who are in demand in the civilian economy to leave the service.

Family benefits, such as on-post housing, the post exchange, and the commissary, have come to represent far less to the serviceman than they did formerly.

The result is that, even if he is a senior NCO, a person with a family has difficulty achieving a living standard in the Army acceptable to him in comparison to what he might expect outside the service.

(4) TWO-YEAR TOUR OF DUTY

I should like to call to your attention some of the effects of the 2-year tour of duty. The use of the Selective Service, with its short period of duty, causes a heavy turnover of personnel throughout the Army to the detriment of efficiency, unit spirit, economy, and battle worthiness. This statement is not in any sense intended as a reflection upon the Selective Service System nor upon the thousands of young men who are thus brought into the Army. We need these young men for immediate Army requirements and recognize that they are a necessary asset to our Reserve structure after completion of their terms of active military service.

However, the 2-year system is not conducive to economy nor stability.

Seventy-one percent of the Army's enlisted strength is composed of personnel with less than 3 years' duty. About 35 percent of the Army are draftees who are with us for only 2 years. Then, also, law requires us to accept 2-year enlistments to coincide with the 2-year obligated tour of the inductee.

Four to 6 months are required to train and ship a soldier to his duty station. By the end of that period, most inductees have only approximately 1½ years of obligated duty left. Their assignment to a unit overseas is, therefore, short.

This situation causes an endless parade of people through units which are required to be combat ready, making it nearly impossible for commanders to achieve a sufficiently high standard of operational efficiency.

At this time I will call upon Brigadier General Crawford from the Office of the Deputy Chief of Staff for Personnel, to outline for you our combat leadership and specialist problems in land combat today and in the future.

MODERN WAR CHANGES PERSONNEL PROBLEMS

General CRAWFORD. Mr. Chairman, I believe General Gavin has already described for you our concepts of how land warfare may be waged in the future. I would like to emphasize just two points that he makes and show a schematic diagram of those points.

The two points I would like to illustrate are (1) that we are going to need far more small units in the future than we have had in the past, and (2), that we are going to need better and more dynamic leadership in the future than we have had in the past.

I would like to show these facts with a schematic drawing which is intended to illustrate on this side the old type of ground warfare with the enemy here, with his artillery, armor and infantry units and our own troops with our infantry, armor and artillery units in the mass-type, slow-moving ground warfare that we have known in the past.

Compare the old units with the new small, mobile, rapid-moving, semi-independent units that we envisage for future use.

MOBILITY AND DISPERSAL

Note that both our forces and the enemy's forces are well dispersed because modern weapons require us to be that way.

Note also that each of our units is a self-contained organization of all arms.

LEADERSHIP QUALITY NEEDED

Since they are so well dispersed throughout the whole range of the battle area, the commander of this unit will no longer be able to receive the detailed instructions that he has received before from his higher commander, nor to receive the counsel of his higher commander and his adjacent commanders.

This commander is alone with his troops and his enemy, and we must rely upon his judgment and his resourcefulness for the accomplishment of our ground mission. He must be able to influence his troops to have the fighting heart and the staying power that it takes to win his fight under whatever circumstances he encounters.

This means that not only this commander but his subordinate officers and his noncommissioned officers must be fine people and they must have a great deal of service, experience and leadership. Because it takes a long time to develop those qualities of leadership to the place where we dare risk our troops in battle with them, it is important for us to be able to retain in this service those people who have those qualifications once we have developed them.

We would like to have them stay with us and help us take part in our mission under mobilization conditions.

COMBAT FORCES IN BEING

Speaking of mobilization, I would like to go on just a minute to show one additional problem in that area. This chart is designed to show only two things: One that under mobilization conditions, we will have to use the troops that we have available at the time. Those in the active Army at the time will be the only people that we will be able to use to carry out these active army mobilization missions.

Mr. HAMILTON. General, could you supply us please with copies of these charts for the record?

General CRAWFORD. Yes, sir; I will be delighted to, sir.

(The referenced charts have been filed with the subcommittee.)

Now some of the missions that will be expected of the active Army under mobilization conditions are to have combat forces in being.

Some of those units, such as those in Korea or Europe, may be in combat and they may have to have replacements provided for them.

These will have to come from the active Army.

Another mission, of course, will be the expansion problem which will have to be solved in order to go from a peacetime to a wartime status.

VERSATILITY STRESSED

Allied committees will have to be formed, new staffs will have to be formed, and we will have to continue our contribution to the missions with allied ground units.

The main point I am trying to stress here, sir, is that if we do not have each individual in the active Army prepared to do any one of several jobs, then our capacity to expand under mobilization conditions will be reduced.

Are there any questions?

Senator SYMINGTON. Following counsel's thought, I suggest you write up for the record what you have said. We cannot reproduce this excellent chart.

General CRAWFORD. Yes, sir.

Senator DUFF. May I suggest, Mr. Chairman, in that connection that there be either letters or numbers on each of these items.

Then he can refer to them in the record.

Senator SYMINGTON. General Booth, will you see that that is done.

General BOOTH. Yes, sir.

General CRAWFORD. Are there any questions?

General BOOTH. Now I would like to ask Colonel Obenchain of the Army Signal Corps to describe for you some of the equipment which the Army will have to use in the coming era. He will also tell you of the problems which he faces in retaining trained personnel.

Colonel OBENCHAIN. Mr. Chairman and members of the committee, previous Army witnesses have reviewed for you the Army's concept for waging land combat in the Army's requirement for superior mobility and communications to exploit greater increased firepower.

The systems required to insure superior mobility and communications and to select and then place our firepower on appropriate targets depends to a large extent upon electronics.

ARMY EQUIPMENT AND SKILLED PERSONNEL

The performance of those systems during combat is in turn directly tied to the technical qualifications of the men who are responsible for their operation and maintenance.

A few examples of such Army systems now or soon to be in use are:

A battle area surveillance system to provide us with more accurate and rapid information on the enemy's strength and dispositions. In our new artillery weapons and guided missiles we have tremendous firepower. Combat commanders must be able to detect and fire on the enemy even in fog and darkness, far beyond the range of the human eye.

Complex electronics equipment is needed to do this, enabling us to destroy the enemy before he can disappear or take cover.

A new combat communications system has been designed to support combat requirements for greater mobility and dispersion. It must provide communications over greater distances than in World War II. The mobility requirement means that relatively simple wire systems are being largely replaced by much more complex radio systems—and these radios must be made to work in the face of possible enemy jamming.

Associated with and closely allied to communication-type equipment are the electronics warfare systems. Such systems are designed to give us a capability to attack and disrupt or deceive the enemy's communications and electronics weapons systems—guided missiles for instance.

Other typical Army systems are the various ones used for artillery and guided missiles. They make extensive use of radar, radio, and computers.

Many of the people we need to plan for, to operate and to maintain the electronics portions of these systems are in short supply throughout the United States. The constantly increasing use of electronics in the military services is being more than matched in the civilian economy where the electronic industry has expanded twentyfold since 1939.

The personnel demands in this industry and related industries for electronic engineering technicians and specialists are virtually insatiable and consequently we have difficulty in acquiring and then retaining in the Army those officers and enlisted men whose qualifications would bring them appreciably more pay and benefits if they worked for industry.

LOSS OF TRAINED PERSONNEL

Let me now give you some specific examples of the problems we are facing and their implications.

In 1951 I received my master's degree in electronics from the Massachusetts Institute of Technology. Four of the 5 Regular Army officers in my class there have since resigned from the service to accept better paying jobs with industry. In my opinion the 3 services have a continuing requirement for officers trained in advanced graduate work to successfully employ the new products of science and technology.

Senator SYMINGTON. Colonel, are you the fifth or were there five and you were the sixth?

Colonel OBENCHAIN. I was the fifth.

Senator SYMINGTON. Everybody has left the Army but you?

Colonel OBENCHAIN. There were other officers in the period; in the particular group I was the fifth.

In 1952 and 1953 I served as deputy commander of the White Sands Signal Corps Agency, which is stationed at the White Sands Missile Proving Ground in New Mexico.

My experience there indicated that the problem facing our engineering type officer and enlisted personnel—particularly those who were not Regular Army—was not whether to stay in the service, but which one of the many good offers from commercial firms they should select.

In a large Army maneuver last fall a lesson we had learned before, again became very apparent—namely, new equipment and techniques would not provide the anticipated results unless they were in the hands of well-trained units and personnel.

CASUALTIES LESS WHEN PERSONNEL SKILLED

In the Korean conflict we had a parallel case along these lines wherein a new radar mortar locator was crash developed and produced to be put into service in combat in Korea.

At that time almost 80 percent of the Army's casualties were caused by enemy mortar fire. It was clearly demonstrated in actual combat operations in Korea that this radar mortar locator in the hands of skilled personnel and radar mechanics would produce effective results in locating enemy mortars for our artillery to destroy.

However, when employed by relatively inexperienced personnel, much of the system's effectiveness was dissipated.

ELECTRONICS DEMAND EXCEEDS SUPPLY

Providing a sufficient number of highly qualified electronic maintenance personnel is difficult. As an example—during the last 4 years we have trained 3,700 radar repairmen in the Army. Recent experience indicates that the retention rate for this specialty is approximately 0.5 of 1 percent for the first reenlistment. Turnovers such as this are an expensive drain on our personnel system.

In conclusion, I have observed in my 14 years as an officer a tremendous expansion of military use of electronics and other scientific adaptations. I strongly believe that the Army, as well as the other services, will have to continue increasing their combat capabilities by incorporating the new products of science and technology into their organizations.

INVESTMENT LARGE

We have already invested very large sums of money in research and development and for the procurement of the Army's weapons and equipment. It would be ironic if this tremendous investment is substantially dissipated through inability to retain the necessary individuals—both in quality and number—to direct, operate, and maintain the Army under conditions of peace or war.

SAME PROBLEMS APPLY TO OTHER SERVICE

General Booth. In summarizing the Army personnel situation, I would like to review for you certain pertinent facts. Most of these facts apply equally well to the other services.

Our greatest single personnel problem is the constant turnover of personnel in our organizations which is caused by the failure of our people to reenlist.

RATE OF TURNOVER BIGGEST PROBLEM

This condition can be improved by increased reenlistments of the more capable personnel who have completed one or more enlistments. To accomplish these reenlistments, additional inducements are required.

Our men of military age tend to weigh carefully the advantages and disadvantages of career military service before they volunteer for a second tour. This examination often reveals possible duty assignments, with minimum creature comforts in places such as Korea or Iceland.

A great deal of family separation is involved because adequate family housing is not normally available in sufficient numbers, particularly in oversea areas.

INADEQUATE HOUSING

Actually, on-post housing is almost always inadequate, even in the United States. Candidates for enlistment observe that the senior enlisted personnel, and the officers as well, often live in houses which are less desirable than do comparable persons in civilian life.

These and other factors often lead those whom the Army needs to retain to lose hope that the Army will provide for their family and financial needs, even when they have accumulated extensive service.

Evidence is needed to show that the services can and do satisfy the needs of their personnel, including their families.

These conditions do not prevent the Army from accomplishing its present or any new tactical mission. What we are now doing is more costly of accomplishment than is desired, and by virtue of our turnover we are often temporarily forced to use less capable personnel than those we lose.

INDUCEMENTS NECESSARY

The Army is constantly developing new weapons and new tactics for waging war on land. More and more, these improvements demand highly intelligent and highly motivated technicians and leaders. To meet these requirements the services must offer attractions which will induce high quality to remain in the service.

The Army believes that a lasting cure to its reenlistment problems will come only as a result of wholesome improvements in the way of life of its personnel. Individuals should be able to obtain and enjoy the blessings of family, home, and financial solvency at every station on the career ladder after the first enlistment.

The Air Force representatives have already outlined to you a five-point plan for increasing reenlistments, by offering additional inducements to military personnel.

ARMY ENDORSES AIR FORCE PERSONNEL PROPOSALS

The Army has substantially the same reenlistment problems as the Air Force. Therefore, we endorse the Air Force proposals which were (1) revised pay, (2) adequate housing, (3) medical care, (4) better commissary and post exchange service, and (5) educational rights.

The aim of all these inducements should be to provide to active military personnel and their dependents a way of life which will produce service pride and dedication. I am sure that you are aware that the Department of Defense has already appointed an interservice committee to study the problem of improving the military pay policies.

Private industry can be expected to continue its efforts to obtain from the military services those leaders and technicians who are most talented. These are the individuals on whom the Army must depend for the accomplishment of its mission.

We must find ways of providing more attractive inducements in order to cut down our losses of these highly trained personnel and retain them for national defense.

Senator SYMINGTON. Thank you, General.

That is an excellent presentation and briefing by you and your staff.

Mr. Counsel, have you any questions?

Mr. HAMILTON. Yes, Mr. Chairman, I have a few.

GYROSCOPE

General, directing your attention to page 2, the last line on the page refers to the system of unit rotation called Gyroscope. I wonder if you could elaborate somewhat, please, for the record on that system?

General BOOTH. Yes.

This system of rotation was brought about by the Army's effort to stabilize the individual soldier in a unit and to move the units rather than to move a number of individuals, and we called it the Operation Gyroscope.

The way that it works is this: That we have a method by which Gyroscope (rotation with stability) is performed by units from battalion up to division size.

Let me illustrate by the very first division-size rotation that was effected.

Last summer, beginning the 1st of July, the 1st Infantry Division in Germany was brought back and the 10th Infantry Division here at Fort Riley exchanged places.

It was effected in this way. One-third of the 10th Division which was essentially a regimental combat team in size, moved families, and everything but their heavy equipment, with their personal equipment, to the port of New York and were shipped to Germany.

They moved into the comparable area where there was a regimental combat team of the 1st Infantry Division, whereupon the first one-third of the 10th Infantry Division moved out and returned to the United States to Fort Riley, Kans.

Mr. HAMILTON. How many personnel would be involved in a movement like that?

General BOOTH. Well, with families I cannot answer that question.

Mr. HAMILTON. Approximately?

General BOOTH. Each shipment would be about 4,500 military personnel alone. Then that was followed by the 2d Regimental Combat Team or second one-third of the division including the division headquarters at that time.

When the division headquarters got to Germany and the division commander of the 10th took over his 2 regimental combat teams, the division commander of the 1st Division then brought his headquarters and second increment back and took over at Carson. This was followed by the exchange of the last one-third of each division.

Gyroscope has a number of advantages as far as the Army is concerned. The families are not separated. Even individuals who have no families are staying with their buddies that they have been trained with. The unit retains its combat-ready posture without dissipating its personnel.

Individuals are not lost to, you might say, the pipeline and the impersonality of being shuffled around on overseas shipment.

We think that it has already improved the morale of all of the units that are involved. There is no question about the fact that it has improved our reenlistment rates terrifically.

Mr. HAMILTON. That is very interesting. Thank you.

TERM OF SERVICE

On page 5, you suggested that the term of service should be longer, as I read it.

Do you have any figure in mind as to what would be the desirable length of term of service?

General BOOTH. Bearing in mind the question of the requirements for trained Reserves as well as an economic use of the personnel after getting the training in the Army, I would say that the proper length of time should be a 3-year tour for inductees.

This has of course a lot of disadvantages in that it will be practically unacceptable to all of the mothers of the country, but it certainly has an advantage from the military point of view both from the active Army where we start to get some use of the training, and then it gives them further training and experience that they can use in the Reserves, whereas right now there is practically no training that a man takes back to the Reserve with him after 18 months of experience and his basic training.

Mr. HAMILTON. One final question.

Several gentlemen from other services who have come before the committee have talked about the need for a professional force.

NEED FOR PROFESSIONAL FORCE

Would you care to comment on the notion of a professional army, in the light of these problems you have talked about?

General BOOTH. As far as we can see for years to come there is considerable disadvantage in having one if you mean 100 percent volunteer service.

We think somewhere between 75 and 80 percent, that is rough, is what we ought to have.

Mr. HAMILTON. You mean as a career service?

General BOOTH. As a professional service as opposed to the cutting out of inductees entirely.

Mr. HAMILTON. What is the present situation; what percent of your force would be professional?

General BOOTH. We will have about 70 percent at the end of this fiscal year. Yes; 69.8.

Mr. HAMILTON. You are getting pretty close to the ratio you think is desirable?

General BOOTH. We still have to make determinations as to whether we should go up considerably higher.

Mr. HAMILTON. Maybe I did not understand you.

General BOOTH. 75 to 80.

Mr. HAMILTON. 75 to 80 percent professional career service?

General BOOTH. Yes.

Mr. HAMILTON. And now you have about 69 to 70?

General BOOTH. Yes; we will have about 70 percent, but that is still not close.

Mr. HAMILTON. That is out of a total force of what?

General BOOTH. One million. We have to consider not only what we are doing with the Active Army, but we have to consider that we have to get trained people into our Reserve structure or our Reserve structure is worthless, so we have to have a certain number of people

going through active duty to keep new blood, and adequate new blood, in the Reserve.

The exact numbers of that I am not in a position to say right now but we have that under study at the present time. But I cannot say that we should go all the way to 100-percent career Army in our enlisted grades, not at this time, not until the Reserves are built up far greater than they are now.

Mr. HAMILTON. Thank you very much.

That concludes my questions.

Senator SYMINGTON. Senator Duff?

QUESTION OF PAY INCREASE

Senator DUFF. General, I wonder if you did increase the pay, whether you would again be confronted by competition with industry since they have an immense need for this type of technicians, where one would be outbidding the other?

General BOOTH. I don't think the solution, Senator, is just an increase in pay.

I think that there have to be a number of variations that will bring the status of the career Army individual up to comparable civilian status.

I don't believe we will ever be able to have a competition just on a pay scale successfully with industry.

It is just not in the cards in the philosophy of this country to have our Government competing with private industry on a pay scale.

FALLEN BEHIND IN RECENT YEARS RE HOUSING, MEDICAL CARE, PX'S

However, it has been traditional that we give and keep our Armed Forces up to the quality and standards of housing and other benefits to the military personnel so that they will be induced to stay in the career field where they are required, and I think that we have gotten in recent years, behind in the military services in such things as housing and post exchange privileges, medical care, and things like that, far behind what we were say 20 or 25 years ago.

Senator DUFF. So that, entirely irrespective of pay, there is not the inducement to remain in the service that there would be if you had these other things in the service?

General BOOTH. I think you cannot make it completely by a pay competition.

You have got to have the motivation, you have got to develop that motivation, that esprit and that dedication to service and you have got to show those people that you want to induce them that way, that there is in the United States the feeling toward the military forces that they are willing to give the housing for their families and treat them so that there is not so much family separation and have the adequate considerations that you would expect in comparison with being a civilian.

Senator DUFF. I have personally seen some of the housing in North Africa. It looked to me as if it ought to be lived in by the aborigines over there instead of servicemen.

General BOOTH. Our housing is in very bad condition of course overseas as far as numbers and adequacy are concerned.

Senator DUFF. The very fact that they want to get out, which is what they seem to want to do, would be another reason why it would not be attractive because, if they wanted to stay in, that would make other people want to come and stay; wouldn't it?

General BOOTH. You are way ahead of me. I did not follow you on that, Senator.

Senator DUFF. Well, anything that is held in exceedingly high regard by the public generally is something that people want to be associated with.

General BOOTH. That is right.

Senator DUFF. And when the feeling prevails regarding housing and the other facilities that they are way below what they would normally have at home, there is not the inducement to belong to an organization where that exists.

General BOOTH. That is right.

Senator DUFF. That is all I wanted to exercise on my part, Mr. Chairman.

THIRTY-FIVE PERCENT ARE DRAFTEES

Senator SYMINGTON. General, how many of your people in the Army are draftees?

General CRAWFORD. May I answer that, sir?

I think the figure right now, sir, is about 35 percent of the total and it comes out to be about 309,000 people.

Senator SYMINGTON. Thirty-five percent?

General CRAWFORD. Yes, sir.

Senator SYMINGTON. Is it going up or is it going down?

General CRAWFORD. The figure is going down, the percentage is going down now, sir, but I would like to make one point in that connection, Mr. Senator.

Thirty-five percent is the total number of people who are draftees, but 71 percent of the Army is composed of people in their first enlistment.

Senator SYMINGTON. Yes; you made that point.

General CRAWFORD. Now notwithstanding the fact that a large number of those in that short term are voluntary people, we still have a large number.

Senator SYMINGTON. In other words, they volunteer once and say once is enough.

General CRAWFORD. They volunteer rather than be branded as somebody who got drafted, that plus the fact that they volunteer as General Booth told you to go with the gyroscope unit because they like the unit and their buddies and so on, but when they get through with their one tour they leave us, sir.

SHORTAGE OF SKILLED PERSONNEL

Senator SYMINGTON. Now as I understand it, you are very short of technically skilled people, right?

General BOOTH. We have to develop our own technically skilled people, only to have to do it all over again because they won't reenlist. They are in short supply outside of the service as well.

Senator SYMINGTON. To the point where your reenlistment of men, the colonel referred to is one-half of 1 percent?

General BOOTH. We have them varying I think from a half or zero. We have certain electronics specialists, none of which reenlist, up to half to 1½ up to about 18 percent where we think we should get about a 60-percent reenlistment rate of those particular personnel.

COMPETITION AND PROSELYTING

Senator SYMINGTON. We had testimony from the Air Force that a man would make around $240, and then he would go into private industry and come back often as a civilian making $1,200 and work right next to the other airmen.

Do you have experiences of that character where a contractor for the Army sends back to work with the Army people who have left the Army?

General CRAWFORD. May I answer that, sir?

I would like to, in answer to that question, sir, cite something that our Director of Civilian Personnel told us the other day.

He states that he is experiencing problems just like the kind you have mentioned, where somebody who has been heretofore employed as a civilian employee of the Army is approached by a contractor who is going to do a job for the Army and the same individual who was working for us left us and goes to the contractor at a handsome increase in pay but does essentially the same work.

Does that answer your question?

THE TAXPAYER PAYS AND THEN PAYS SOME MORE

Senator SYMINGTON. Yes.

Actually the taxpayer pays for the hiring of this man, the training of the man. Then, if he goes into war work for a prime contractor or a subcontractor, the taxpayer pays for that 3 or 4 times more which the man makes in private industry. Then he also pays for the man who replaces him, isn't that correct?

General BOOTH. Yes.

Senator SYMINGTON. That is almost mathematical. If the soldier leaves the Army to go to work for a company making a mortar finder, the price of the mortar finder is paid by the taxpayer, and the contractor of course puts the much higher cost of the man in the price of the product he sells the Army.

So the taxpayer pays for the training of the soldier, then he pays the heavy additional amount the soldier gets in salary, then he also pays for the additional man to replace him. Is that a fair statement?

General CRAWFORD. Yes, sir, in the main that is correct.

Senator SYMINGTON. The person who really suffers by this penny-wise pound-foolish policy is the taxpayer.

SOME PRIVATE CONTRACTORS' PRACTICES

Senator DUFF. One of the things I have noticed, Mr. Chairman, is that Army contractors, even when it comes to common labor, will go into a community and pay two and a half times the going rate for common labor.

It seems to me there is something wrong with our whole setup where they get it on a cost-plus basis where they don't care what it costs.

I know that of my own personal knowledge when I tell you about that kind of a situation.

Senator SYMINGTON. I don't know how you are going to handle it in our system, but it would seem there should be some limitations on the right of a defense contractor to milk the services of their best people.

(Discussion off the record.)

Senator SYMINGTON. Back on the record.

ARMY'S RECOMMENDATIONS REQUESTED

General, will you furnish for the committee at this point detailed recommendations as to what the Army's recommendation is to hold these people.

I am talking about the skilled technicians you are losing so rapidly.

You refer to the five Air Force points and say you agree with them; but would you furnish for the record the details about the housing?

I think the committee would like to know more about it and I know I would.

Please put it in the record at this time.

It is my understanding we are going into the question of shortage of engineers and scientists in these hearings. Along with engineers and scientists are skilled people, technicians, people whose quality training makes them important for our military strength. It is unfortunate when we lose them.

Will you do that for us?

General BOOTH. Yes, sir.

Senator SYMINGTON. As you know, this hearing is limited in scope to airpower, and therefore if you would concentrate on the technicians incident to air and missile work, that might be preferable; although it would be in order to discuss the whole program. They tie in pretty tight.

General BOOTH. All right, sir.

Senator SYMINGTON. Any further questions, Mr. Counsel?

Mr. HAMILTON. No.

Senator SYMINGTON. Senator Duff?

Sentor DUFF. No, sir.

APPRECIATION

Senator SYMINGTON. Again let us thank you and your staff for this fine briefing.

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